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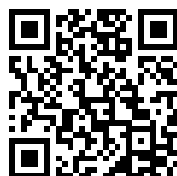
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BY MEMBERS OF THE ALPINE CLUB.

EDITED BY GEORGE YELD AND J. P. FARRAR.

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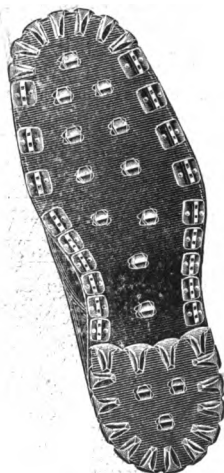
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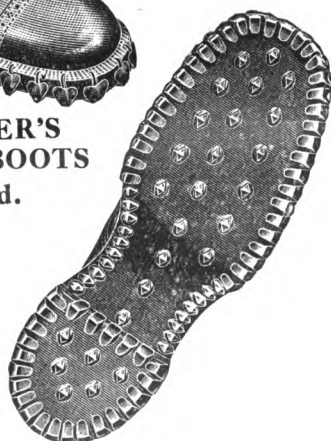
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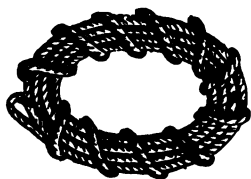
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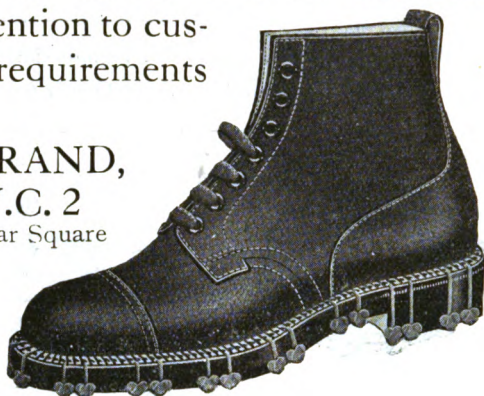
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THE ALPINE JOURNAL.

MAY 1923.

(No. 226.)

VALEDICTORY ADDRESS.

By J. NORMAN COLLIE, PRESIDENT OF THE ALPINE CLUB.

[Read before the Alpine Club, December 11, 1922.]

IT is now three years since I was honoured by being made President of the Alpine Club, and the time has come for me to address you on the subject of the chief events that have happened during my term of office, and to review what progress has been made in the mountaineering world.

Three years ago we were recovering from the aftermath of the war, and looking forward to the restoration of our playground in the Alps to what it was before 1914. It is true that the hills are still the same—they do not change—neither does the keenness of the members of the Alpine Club for visiting the great mountains of the world become less. But in human affairs, where 'the thousand natural shocks that flesh is heir to' rule, the old days unfortunately cannot come back. We are years older than we were before the war; the old order has been rudely broken; but in spite of those evil days we can show that we are still capable of outbursts of great mountaineering energy.

The Alpine Club is always young, but, alas! it is true also that individually we grow old. We are 'players who strut and fret our hour upon the stage and then are heard no more.' Every year exacts its toll, and every year some of those worthy men, the begetters of mountaineering, pass away. Nevertheless the traditions are piously handed down from generation to generation.

During the last three years the Club has lost heavily amongst its older members; some of them there are who joined the Club almost at its start—three of these have been on the Club lists for over sixty years. These three, Thomas Blanford, J. C. Hawkshaw, and the Rev. J. K. Stone ('Father Fidelis'),

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were all elected in 1860. Thomas Blanford took an honourable place with the conquerors of the Alps, especially in the Tarentaise during the years 1863-4-5. J. C. Hawkshaw did much climbing in his youth and was a good athlete. At one time he was President of the Institute of Civil Engineers. Father Fidelis was a great wanderer amongst the mountains, especially in the Cordilleras and the Andes. In his early days he was a friend of Sir Leslie Stephen.

Besides these fathers of the Alpine Club six others have died that for fifty years or more were members of the Club : C. Comyns-Tucker, F. A. Wallroth (Vice-President in 1890, and Secretary 1875-7), W. M. Pendlebury, who in 1872 made the first ascent of Monte Rosa from Macugnaga, H. S. Williams, Colonel E. Clayton, and F. H. Cheetham.

Our heaviest loss, however, has been by the death of two of our former Presidents, Hermann Woolley and Lord Bryce. Each in his way represented great things. There are indeed few mountaineers who could rank with Woolley. His knowledge of ice and snow was wonderful ; he was a good rock climber and of marvellous endurance, and if necessary could go sure-footed at any pace on a difficult climb. He also possessed the rare faculty of recognising the best route up or down an unclimbed mountain. Woolley was a typical all-round mountaineer, either with guides or without them ; of his good temper, modesty, and charming character, those who climbed with him know well how few there are that come up to his standard.

Lord Bryce was great in other ways. His knowledge of the mountains was world-wide, and he never missed a chance of visiting new ones even during the last years of his life. Although we cannot claim him as a great mountaineer, yet we are proud to have had as our President one who forged the link between two great nations, and one whose political influence was acknowledged all the world over, also one who as a man was learned, wise, and tolerant.

In E. A. Broome we have lost one of our most active and devoted members. During thirty years he carried through a series of expeditions that has rarely been equalled. A man full of energy and spirit, and a great climber, by his death the Club has been deprived of one of its best members.

Another energetic mountaineer who has left behind him a worthy record is Dr. Kellas. His achievements in the Himalaya are remarkable, not only for the number of first ascents up to over 23,000 ft., but also for the rapidity with

which he ranged through the mountain lands he visited. His itineraries remind one of those of the early climbers in the Alps.

The Alpine Club attracts men of every profession, and we find amongst those who have passed away during the last three years Sir George Savage, a great physician; Edward Hopkinson, a great engineer; W. A. Baillie-Grohman, an enthusiastic sportsman; E. T. Compton, a distinguished alpine artist; F. W. Bourdillon, a graceful poet and acknowledged authority on the old French romances; also Reginald Farrer, an ardent botanist.

The only death amongst our Honorary Members is that of H.S.H. the Prince of Monaco.

Several other well-known members of the Club that have died are: Sir George Prothero, Vice-President in 1907; Alfred Topham; J. T. Wills, son of Sir Alfred Wills; and F. Whelan.

Several of the old alpine guides have left us: Michel Payot, a great name in the memory of veteran English climbers—he, with Mr. J. Eccles, over forty years ago, climbed Mont Blanc from the Brouillard Glacier by the great couloir and the Peuteret ridge; Augustin Gentinetta; Antoine Maquignaz, who accompanied the Duke of the Abruzzi to Mount St. Elias in Alaska, and Sir Martin Conway to the Andes. Also old Peter Baumann, the last of that very distinguished group of early Grindelwald guides and pioneers of the Alps. He climbed in his youth with Moore, Tyndall, and Leslie Stephen, and, like so many of the older guides, delighted in snow and ice work, and was an ideal teacher of mountain craft.

And last of all must be mentioned Dr. Alexander Seiler, the friend of every English mountaineer. His death is a great loss, and Zermatt will never be the same again.

During the last three years several distinguished foreign mountaineers have become Honorary Members of the Club: M. le Baron F. Gabet, President of the C.A.F., and M. Henri Mettrier; also Sig. Cav. G. Bobba and Sig. Cav. Guido Rey.

The activities of the various members of the Club are as strenuous as ever amongst the Alps, in spite of the fact that during the last two years several of our most energetic younger climbers were with the expedition to Mount Everest.

Certainly one of the most interesting climbs, although it is not a new one, was made last year by Messrs. Courtauld, Finch, and Oliver, with the guides Adolf Aufdenblatten and his brother, from the Brouillard Glacier and the Eccles Col to the Peuteret Arête and Mont Blanc de Courmayeur. This climb is quite one of the finest in the Alps. It is therefore the

more remarkable that from 1876, when Mr. Eccles with Michel and Alphonse Payot first climbed it, till 1921 the ascent was never repeated.

Another arduous climb must be put to the credit of that enthusiastic mountaineer, O. K. Williamson, namely, the traverse of the Täschhorn over the S.E. and N. arêtes, with a descent by the Domjoch.

R. W. Lloyd has made the first ascent of two cols, the Zinal face of the Oberschallijoch and the N. face of the Col de Bionnassay; also a traverse of the Dent Blanche.

One of our foreign members, Monsieur Marcel Kurz, has succeeded in ascending, for the first time in winter, the last two peaks in the Pennine Range over 4000 m., the Ober Gabelhorn and the Täschhorn.

Several other first ascents are worth mentioning that, however, were not made by members of the Alpine Club. The ascent of that famous ridge, the E. or Mittellegi Ridge of the Eiger, has at last been accomplished. As far back as 1874 it was first attempted by the Messrs. Hartley, and from time to time many other mountaineers tried it without success. In September 1921 Mr. Yuko Maki, of the Japanese Alpine Club, together with F. Amatter and two other Grindelwald guides, conquered it. The difficulty of climbing up the great final pitch can be imagined, for it took them seven hours.

That eminent climber Sig. G. F. Gugliermina has ascended the Mont Dolent by the S.W. face, and the W.N.W. arête of Mt. Collon has been climbed by M. Schwartz.

In the United States Mr. Le Roy Jeffers has made the first ascent of Mt. Moran, the finest peak in the Teton Range; and in Canada Mr. V. A. Fynn has made a fine new ice and snow route up the N.E. face of Mt. Victoria.

Not only have several members of the Club been busy with Mt. Everest, but also there have been two other expeditions to the Himalaya. Dr. Kellas, in 1920, visited Kamet in Garhwal, and studied the effect of oxygen at high altitudes. He reached a height of 23,600 ft. During the ensuing winter he ascended a peak 18,000 ft. high, N. of the Kang La, from which he obtained the first photographs ever taken of the high mountains to the N. of Mt. Everest, which were visited a year later by the Mt. Everest expedition. Early in the spring of 1921 he was back again at the Kang La, whence he climbed a peak of 19,000 ft. He next made the first ascent of Narsing, 20,000 ft., and finally worked out a new route through the icefall on Kabru to a height of 21,000 ft. This icefall took

C. W. Rubenson five days of hard work to cut through on his ascent of Kabru.

Another expedition to the Himalaya in 1920 was that of Mr. H. Raeburn. He and Mr. C. G. Crawford attacked the southerly walls of Kangchenjunga from the Yalung Glacier; the highest point reached was 21,000 ft. On their way back they crossed a new pass, the Rathong La.

Mention must also be made of the Oxford University expedition to Spitsbergen, where a new glacier system was discovered.

We now come to obviously the most important mountaineering adventure, the one sent by the Royal Geographical Society and the Alpine Club to Mt. Everest in 1921 and 1922. Never has there been any mountaineering expedition of such interest or importance. For not only was it to an unknown land of mighty peaks, but the peaks themselves were the highest in the world. Moreover, geographically the results were of equal value with the mountaineering ones: thousands of square miles of a totally new country never before visited by a European were mapped. The flora and fauna have yielded specimens new to science, and the geological strata that build up that stupendous rampart separating Eastern Nepal from Tibet have been studied for the first time.

The premier expedition in 1921 was naturally one of reconnaissance, and under the able guidance of Colonel Howard-Bury accomplished even more than was expected of it, especially from the point of view of exploration.

Messrs. G. L. Mallory and G. H. Bullock, after an exhaustive search round Mt. Everest on the W. and the N. and the S.E. sides, at last discovered a vulnerable spot from which the summit might be reached without any excessive amount of difficult ice, snow, and rock work, and the second expedition during last summer has shown that they were justified in their discovery.

They also climbed a peak, Ri-ring, 22,520 ft., on the W. of the main Rongbuk glacier, and another about the same height at the head of the Kharta Valley. Finally they ascended the Chang La, 23,000 ft. from which the obvious route up Mt. Everest starts.

The photographs brought back in 1921, chiefly those of Colonel Howard-Bury, were a fit tribute to the great peaks visited. Many of these huge peaks, such as Makalu, Gaurisankar, and Pumori, are worthy of belonging to the greatest mountain range in the world, but it is unfortunate that Mt.

Everest, the highest of them all, should be built up, at least on its northern face, in a somewhat commonplace manner. Those other great monarchs, K_2 , Kangchenjunga, Makalu, and Nanga Parbat, are infinitely finer. The ice world on the N. side of Mt. Everest also is tame compared with those two marvellous glaciers and their tributaries, the Baltoro and the Siachen glaciers. It is true that we do not know much about Mt. Everest on the S.W. side, where its mighty precipices stand guard over the tumultuous glaciers that descend to richly wooded valleys, deep cut through the lesser mountains. There must be gorges of supreme grandeur, where the pent-up waters foam and tumble down to the low-lying lands in Nepal.

Those whose knowledge of the Himalaya is only of the country to the N. of Mt. Everest know nothing of the real Himalaya. Far different are the awful ice solitudes that surround K_2 , the Gusherbrum peaks, and the Mustagh tower. There all is one huge snow world, where gigantic Matterhorns and majestic Mont Blancs vie with one another as minor satellites to the stately kings that reign in those far-off marvellous lands. What is there in the Mt. Everest range that compares with the Saltoro towers? Where do we find anything approaching the immensity and sullen grandeur of the gorge of the Indus below Gor, where the waters of that great river have come from a mountain land many times the size of the Alps and from sources nearly a thousand miles away, and have cut through the main range of the Himalaya, forming a rift deep, desolate, and unique in savage immensity? On its N. side precipices rise one over the other for 12,000 ft., whilst on the other are the snows on the summit of Nanga Parbat, 24,000 ft. above the river below.

In one way, however, it is fortunate that the N. side of Mt. Everest is so comparatively tame. For the other great peaks above 27,000 ft., if they gain in grandeur, present such savage precipices and steep glaciers that one despairs of ever being able to win anywhere near their summits. Mt. Everest, on the other hand, presents no such difficulties, and, as we now know, Messrs. Mallory and Somervell climbed to just short of 27,000 ft., whilst Captain Finch and Lieutenant Bruce reached 27,235 ft. with the help of extra oxygen, thus beating the previous record by 2700 ft. Moreover, coolies carried heavy loads to 25,000 ft.

Great things were accomplished by another member of the 1921 expedition, Major Wheeler. Although he was not one of the climbing party proper, yet he made many high ascents.

Unfortunately we have no complete account of all his climbs. Primarily he was concerned with the photographic survey of the Mt. Everest district. In order to carry it out he had to climb up numberless ridges and minor peaks, and must have been many times over 20,000 ft., where, in icy gales that always blow, he for hours often had to wait for the mists to clear away before he could secure the photograph he wanted. He it was who first ascended the East Rongbuk glacier, up which a year later the second Mt. Everest expedition went.

Dr. Wollaston brought home in 1921 a most interesting collection of the flora and fauna of the district. In 1922 Captain Noel obtained a most valuable kinematograph film. Some of the exposures were made at an altitude of 23,000 ft. on the North Col. Those of the events of the journey and of Tibetan dances give one an excellent idea of not only the life of the expedition, but native life as well. Mr. Somervell, not content with climbing, was also artist and musician to the expedition. He has produced some most characteristic pictures of the mountains and the scenery, and has also brought back weird native music that he heard in Tibet.

One of the greatest successes of the expedition was the way in which General Bruce managed to collect transport and deposit successfully all the outfit of the expedition at the base camp. What his feelings were during all those weeks spent at the bottom of the Rongbuk glacier, amidst icy gales, he alone knows; and the persuasive talent he must possess to have collected from the sparsely inhabited district around enough coolies to keep the higher camps supplied is wonderful.

We have gained much valuable knowledge from these two expeditions—knowledge that should ensure success, given moderately fine weather, when the next expedition attempts to reach the summit of Mt. Everest. We now know that with the help of extra oxygen there is every probability that the remaining 1700 ft. of the great peak will offer no great difficulties from the point of view of rarefied air. Moreover, if coolies can carry loads to 25,000 ft. without any excessive hardship, those coolies surely without such loads ought to be able to climb the remaining 4000 ft. without extra oxygen. But great difficulties still remain. The icy winds, and the lowered vitality owing to insufficient combustion in the lungs, both mean increased liability to frostbite. Also, if new snow has fallen, or if the warm monsoon comes, avalanches result, and in size Himalayan avalanches are comparable with avalanches in the Alps as Mt. Everest is comparable with Mont Blanc.

Those who attempt to climb the great peak should have, above all things, an undoubted knowledge of ice and snow. They should know almost by looking at a snow slope whether it is safe or not, and watch for changes of weather with a vigilance far more keen than is customary in the Alps. To be caught by bad weather at such heights as 24,000 ft. probably would mean disaster.

During the early summer the wind in those Tibetan highlands blows all day and every day, often with the force of a gale; it is always from the W., and bitterly cold, but it brings fine weather as a rule. In the early summer the summit of Mt. Everest is moderately free of snow, but later, as we have seen from photographs taken in September, the great peak is white from top to bottom.

It is therefore only in May and part of June that the mountain is in a condition for climbing—a time far too short; but let us hope that the next party will find the conditions more quiescent than they were in 1922.

A word must also be said about other difficulties that, as a rule, one does not hear much of: the difficulties of equipping and organising so large an expedition. All praise must be given to those who spared no trouble in outfitting the expedition. Chief amongst these were Captain Farrar, Mr. Meade, and Mr. Unna. They saw that everything possible was sent out necessary for the comfort of all concerned. Professor Dreyer and others also gave valuable help. And last, but certainly not least, the best thanks of the Alpine Club should be given to Mr. Hinks for the untiring manner in which he conducted all the affairs at home during the last two years. All the correspondence, photographs, making of several maps, arranging lectures, notices in the papers, etc., he has looked after in a manner that not only has been splendidly done, but has also resulted in increased pecuniary benefit to the Mt. Everest expedition.

The JOURNAL has flourished exceedingly under the indefatigable influence of Captain Farrar. It has contained articles that place vols. xxxiii. and xxxiv. amongst the most interesting and most valuable of the whole series. He has also been better than his word. Three years ago, in his valedictory address, he said, 'So long as present prices obtain we must be content with one number a year'; but he has given us two numbers a year, and they grow in size. Vol. xxxii. had 420 pages, vol. xxxiii. 480 pages, and vol. xxxiv. 560 pages. They contain interesting papers on all sorts of subjects.

Besides the papers on new climbs in the Alps and elsewhere Captain Farrar has managed to obtain from the best sources historical articles of great interest and value. To give only a few : ' Early Swiss Pioneers in the Alps ' (Dr. Dübi) ; ' Early History of the Col du Géant,' also ' Narratives of the Ascent of Mont Blanc in 1819 ' (H. F. Montagnier) ; ' The Schlagintweits and Ibi Gamin ' (C. F. Meade) ; ' History of the Alpine Club ' (A. L. Mumm) ; ' Abbot Nicolas on the Alps ' (W. P. Ker). And of course we have had all the articles on Mt. Everest, with an immense number of illustrations, also maps.

The library has been much improved by Mr. A. L. Mumm, who has spent much time in rearranging it with the help of Mr. Mackintosh.

There have been quite a number of alpine books published during the last three years. The most important is ' The Life of Horace Bénédicte de Saussure,' by Dr. Freshfield in collaboration with Mr. H. F. Montagnier. It contains a history of one of the ablest scientific men of the eighteenth century, one whose name also will always be associated with Mont Blanc. Amongst biographies it must take a high place. It is remarkable that the life of so eminent a man as de Saussure should not have been written earlier. But ample justice has been done him by Dr. Freshfield, who has produced a work of which he should be proud.

Next comes ' Mt. Everest : The Reconnaissance, 1921,' by Colonel Howard-Bury, D.S.O., and other members of the Mt. Everest expedition. This record of the first expedition to Mt. Everest is quite worthy of the subject. We must congratulate ourselves that the first description of the highest mountain in the world, and of the mysterious Tibetan country that lies to the N. of it, should be written by Englishmen, and members of the Alpine Club. The reconnaissance of 1921 fully accomplished its task, and let us hope that vol. iii., when it is written, will contain an account of how in the end a member of this Club has won to the summit of that mighty mountain, in spite of the terrible winds, the fierce cold, and all the other entanglements with which the great Goddess of the Snows has with such a prodigal hand surrounded herself.

' Mountain Craft,' by Winthrop Young, and ' Mountaineering Art,' by Harold Raeburn, are books that give delight to all ardent student-mountaineers. Let us hope that the readers will mark and inwardly digest all the valuable material gathered together in these volumes. Written by experts on the subject with first-hand knowledge of all they have

described, they are a most welcome addition to mountaineering literature.

Sir Martin Conway has given us a volume of 'Mountain Memories.' They are quite characteristic of the author. He belongs to the school of the romantics and wanderers. Once, he says, he might have fallen from his high estate and spent the rest of his life in 'shinning' up difficult rocks on obscure mountains, a most fortunate escape, but I do not think that the temptation can ever have been severe.

The literature of the Canadian Rocky Mountains has received a welcome addition in a 'Climber's Guide to the Rocky Mountains of Canada,' by Mr. Howard Palmer. It is a summary of the existing information up to date. At the present time 200 peaks have been climbed in an area stretching over a length of almost 500 miles. But there are still endless others that have never been trodden on by a human foot. When we consider that thirty years ago no peak of any importance had been climbed, that there were no roads, that there was only one chalet—the one at Lake Louise—in the whole of the main range of the Rockies, 200 peaks climbed show that mountaineering has become a recognised pastime in the Canadian Far West.

The Oxford and Cambridge climbers have produced an excellent collection of essays on mountaineering. Let us hope that more will appear shortly.

A most interesting work on the mountain lands in the United States, 'The Call of the Mountains,' by Mr. Le Roy Jeffers, has been published. It deals with almost all the mountain regions in North America, with the exception of Alaska, and it gives one an excellent idea of all the different mountain ranges, and of the wild scenery that can be visited in travelling through them.

Japan is also represented in 'The Playground of the Far East,' by Rev. W. Weston. It is tantalising that that fascinating country lies so far afield.

Mr. A. L. Mumm has brought out the first instalment of the Alpine Club Register, 1857-63, a most interesting volume that must have taken much time and labour to compile.

Another book on mountaineering that ought to be mentioned on account of its dissimilarity to the usual alpine literature, at least as far as its title is concerned, is 'Mountain Madness.' The author is Miss Helen Hamilton. A reviewer of the work says, 'The writer of the book is fortunate to have lived to write it.' We also should be pleased that she has been spared,

for it is a work that as one reads one smiles, pitying the sorrows of a 'mad' mountaineer, who hates to go uphill, hates to be tired and hungry, or to be too hot or too cold.

Last of all we have two interesting volumes, one dealing with the diaries and letters of that pioneer in the Alps, F. F. Tuckett, for the years 1856-74, the other the letters of the Earl of Lovelace (Lord Wentworth). He began his alpine career on the Rigi, in 1847, and climbed steadily till 1901. To give some idea of his energies, in 1897 he ascended the Grépon and at least seven other important peaks.

The Alpine Club has always wished to encourage mountaineering and exploration in the Himalaya, therefore we may congratulate ourselves that in the last few years there has been an increasing number of entries into the Club of residents in India who have gone to the Himalaya for the sake of mountaineering. In Canada, New Zealand, the United States, and Japan, Alpine Clubs exist, but it is remarkable that in India, where there is by far the finest mountain land in the world, there is no Alpine Club. Sixty-six years ago Mr. Johnson, at the suggestion of Mr. Drew, made efforts to found a Himalayan Club, but through want of support and sympathy the club never was started. Let us hope that the Mt. Everest expedition will have the effect of further stimulating the energy and imagination of many of the younger generation in India, and send them to the great hills, where they will find not only health but joys that come from trying one's strength against the great things of the world—joys that run with magic stream through one's veins—for the mountains give to one many and perilous dreams that urge one on to battle with that unconscious strength born of all the confidence and assurance of youth, towards visions of desperate and unknown achievements.

The New Zealand Alpine Club, whose activities were temporarily suspended during the war, intends to again issue its journal. We wish our sister club all prosperity, also health and renewed energy to those splendid pioneers of New Zealand alpine mountaineering who founded the Club. They were real climbers, for they had a great and unknown snow and ice world to conquer, mountains that would tax all the energies of the very best of mountaineers.

This is the last time I shall address you from this chair as President. The time to me has seemed all too short. I hope that the affairs of the Club have been satisfactorily carried on during the last three years. The members of committee have

had much business to transact, one of the most important items being the question of what was to happen at the end of our lease in 1924. Although it is not yet definitely settled, I hope that with the help of Mr. Withers, who is conducting the negotiations, we may be enabled to remain in our present rooms at a reasonable rent.

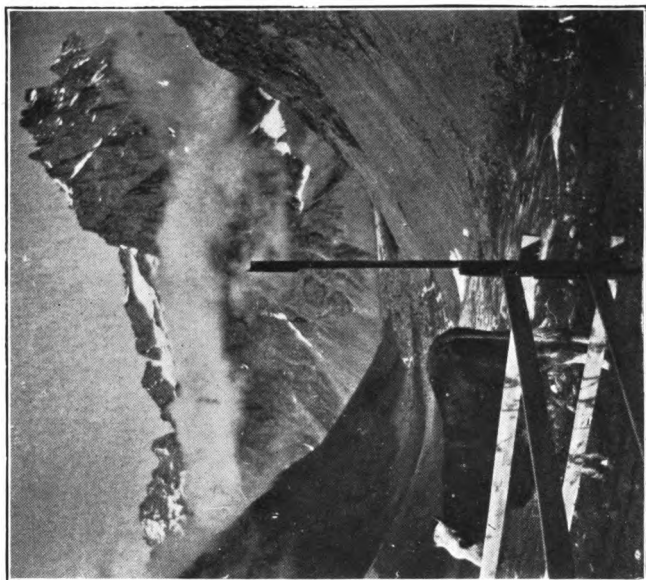
Besides the help of the committee, I have always had the wise advice of Captain Farrar. No amount of trouble is too much for him to undertake, if by it he can benefit the Club. I doubt if at any time we have had anyone who has had the welfare of the Club more at heart than he has. Also my special thanks are due to the Hon. Secretary, Captain Eaton, and to his diligent assistant, Mr. Oughton. I thank the members of the Club for their kindness and courtesy during my term of office; they have always treated all suggestions brought before them from the committee in a sympathetic manner.

Gentlemen, I hand over the Presidency to General Bruce, my very old friend. We have climbed together in many parts of the world, and I know him to be the best of good fellows. If he can administer the Alpine Club with the same skill as he did the last expedition to Mt. Everest, all things will work with the greatest ease and the Alpine Club will prosper.

SOME ALPINE EXPEDITIONS IN 1922.

By A. C. PIGOU.

OUR Alpine holiday in 1922 was original in one thing: the method of getting to the ground. The party, McLean, Hallward, and myself, were accompanied across the Channel by a five-seater Ford car. Arrived at Dieppe on the morning of July 1, we drove furiously along the good parts, and bumped in agony along the all too extensive bad parts, of certain French *grandes routes*. McLean, to whom I was obliged on occasion to surrender the wheel, has a way with him in the conduct of motor cars that provides fine training for his companions' nerves! However, the only actual casualty that occurred took place while I was in charge. A minute French chicken hurled itself incontinently across our path and met an untimely end. On the evening of the third day, groaning somewhat with a disease that, in the darkness, we could not diagnose, the car climbed up the steep hill to La Grave and halted before the hospitable door of the Hôtel de la Meije.



ROCHE MÉANE
from Chalet de L'Alpe.

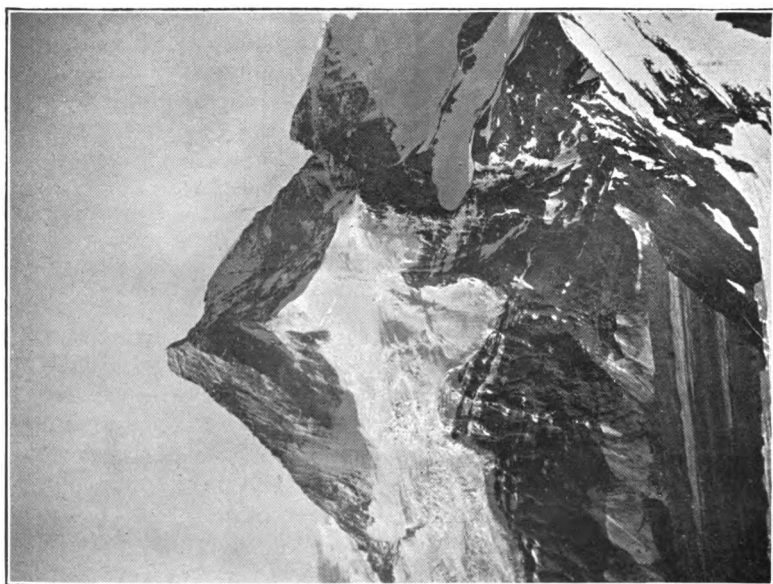


Photo R. Graham. MATTERHORN.
Showing Z'Mutt arête from Pointe de Zinal.

Next morning, rather worn with our journey, we wandered along the tunnelled road to look at Villar-d'Arène. The church is embellished on one side with two charming parallel 'chimneys' some sixty feet high, up which Hallward immediately proposed a race; but I, out of respect for the sacred edifice, coupled perhaps with other considerations, firmly declined the challenge. After lunch he and McLean ran violently up a steep place to prepare against the morrow. I, having successfully cured the car of its diseases, claimed a reward in idleness.

The morrow came and, with it, our training climb, the not very stately Bec de l'Homme. There are plainly any number of ways of getting up this mountain. We went to the foot of the Tabuchet glacier, crossed the ridge of the Pic de l'Homme by an extremely rotten wall, and then climbed up the Bec. It was a very bad route, and we took eight hours to reach the top. Hallward survived throughout; McLean suffered a little on the way up; I suffered a great deal on the way down. So ill, indeed, did I become that on the slopes leading to Villar-d'Arène McLean went on ahead to get the car and save me the two miles of road. At last, after being nearly cut off by precipices in the forest, I staggered, under Hallward's escort, into the Villar-d'Arène inn. We had no money, but our trustworthy appearance got us *café au lait*; and, just as our bowls were finished, the faithful Ford, hooting triumphantly, rushed into the square.

When we woke next morning the weather was still fine; so we walked up to the Chalet de l'Alpe—a charming spot, where, for fifteen French francs per day, you are lodged and fed luxuriously. During the night rain and storm fell on the house—a prelude to the season's happenings—but next afternoon it cleared enough to let us bathe in a cold pool, and to tempt upwards a French couple with their guide. My companions spent the evening in dance and song with the lady, while I underwent a discourse from her guide on the rottenness and peril of the Roche Méane, to which we had turned our eyes.

Dawn found us floundering among the horrors of the Casse Déserte. We were learning the inner meaning of the stones of Dauphiné. At last we escaped and, by rubble and snow, made our way to the glacier which divides the Roche Méane from the Grande Ruine. By this time we were none of us fired with the ardour of adventure—particularly adventure among rottenness; so we toiled up to the Brèche Giraud-Lézin for the lesser glories of the Grande Ruine. Even these, however, were not

to be won without an effort. It was difficult to get on to the rocks from the glacier, and they proved anything but firm. However, eventually we attained the summit, after overruling vigorous protests from one of the party, who asserted that the whole mountain was about to fall on us in a single solid block. We came down along a snow ridge leading to the Pic Bourcet, and then easily on to the glacier. Until we arrived once more on the Casse Déserte we were happy. Returned to the inn, we hungrily ordered *café au lait* and omelette, while our host sat down to explain to us in detail the various respects in which we must have strayed from the proper way. The *café au lait* duly arrived ; but there was now present in the chalet a gentleman of great influence, no less a one than the chief of the local police. The admirable omelette on which we had built our hopes was served respectfully to him !

Rain fell in the night and following morning, but the sky cleared later. We decided to go to La Bérarde, and, with the help of the map, chose our route—Pic de Neige Cordier, Col Émile Pic, Glacier Blanc, and Col des Écrins. This turned out a charming expedition, carried through in perfect weather. We hit a good route on to and up the Pic de Neige Cordier and were on the top at 6.50, five and a half hours from the start. During a long halt we watched with vindictive satisfaction the Chief of Police—devourer of our omelette—and his guides toiling and, as we hoped, suffering on the slopes of the Grande Ruine. Crossing the Col Émile Pic, we did not descend directly to the Glacier Blanc, but contoured round above it—a plan that would probably waste time in a less snowy year, but answered well for us. On getting to the Col des Écrins at half-past ten we all experienced a shock—for to our eyes expecting a gentle slope there suddenly appeared an exceedingly steep rock wall. So surprised were we that we doubted whether this was the proper opening, and went off to inspect another one higher up towards the right. But one glance at the tottering rottenness below was enough. We returned to the true col and discovered, of course, that the wall was amply garnished with enormous holds. Fortune continued to favour us. We found a good bridge across the bergschrund, and then, descending the Bonne Pierre glacier, by pure accident struck the top of a moraine, along which has been constructed an admirable path leading down to La Bérarde. We reached the hotel in time for tea, after a charming and varied day.

Our hopes of making the first traverse for the season over the Meije, which that day's sunlight had warmed, were

shattered next morning by a return of bad weather. Acting on the principle that it is a mistake, in a doubtful season, to wait about for big peaks, we resolved, if it should prove possible, to go back next day to La Grave across the Brèche. But, before that enterprise could be attempted, there befell us a great adventure. A sergeant of gendarmes invaded the hotel and demanded our passports. These, thinking no evil, we had left in our bags at La Grave. A terrific storm broke. We might be Allemands; we might be Bolsheviks: the doors of the gaol were opening for us. Fortunately a French visitor at the hotel took up arms in our behalf. With wild gesticulations the battle raged over our heads. Our champion carried the war into the enemy's country with an original argument. Why, he cried, to carry a passport across the mountains, so far from being the right thing to do, would be an act of madness: an avalanche might carry the sacred document away, and then where would its unfortunate owner be? But the sergeant did not flinch. He too, he shouted, was an Alpinist—had he not made the traverse of the Meije? Did he not know that, if an avalanche were to carry off the passport of a voyageur, it would in all probability carry off the voyageur also?—and of those buried upon the mountains passports were not required! Suddenly the storm, in the inexplicable manner of French storms, died down. For us there was no reproach—we were undoubtedly 'braves gens'; but it was the safety of the Republic that required these precautions. Let us remember always in future that, on the soil of France, the passport and the man should never in life be divided!

Nobody called us next morning or prepared for us any food. Nevertheless we were off at four, walking through a thick cloud. For a few moments the sky cleared and we saw the splendid, though whitened, bastions of the Meije. But at the Brèche snow was falling thickly, and there was a very dense mist. We hesitated a good deal about descending an unknown glacier in these conditions, but finally agreed at least to make a start. After we had gone down some way, one member of the party, on the basis of much book-learning, directed us steadily on a line towards the left and *upwards*! We submitted patiently until this route brought us immediately beneath a row of towering séracs. Thereupon revolt broke out. We resolved that in a fog the value of book-learning is limited, and that, if one wishes to descend a glacier, it is advisable to walk down, and not up. By acting on this simple rule we came before very long to the top of the Enfethores rocks. The snow

stopped and the sky cleared, and, in spite of sundry wanderings from the best way, we reached in due course the Hôtel de la Meije. There the 'braves anglais' were loudly acclaimed for their heroic venture, and regaled themselves with tea.

At this point in my narrative I am tempted to a brief excursus. On the Enfetchores rocks we encountered three Frenchmen from Grenoble. Two of them were competent climbers, but the third, who was carrying a portentous load, had never—so they told us, and so his movements suggested—set foot upon a mountain before. This unfortunate young man was continually in difficulties—he might have killed himself at any moment—and yet the party did not rope. No doubt a local guide perfectly acquainted with the district could have found a route down these rocks where anybody, however incompetent, would be safe. But an unguided party is certain, from time to time, to get into places from which a novice may easily fall. And yet, if that novice is a spirited person, he will hate to ask for the rope; he will much prefer to undergo mental discomfort and physical danger. Surely there is an imperative obligation on his more experienced companions not to allow this to happen, and to shoulder whatever inconvenience there may be in roping too soon rather than too late. After all, we climb for amusement, not to provide illustrative material for students of natural selection!

In the ordinary course the journey from La Grave to Chamonix would be a wearisome affair of two days. For us in our car it was a very pleasant ride. Starting at about nine in the morning, and travelling by Grenoble and Albertville, we topped the hills overlooking St. Gervais at sunset, had a marvellous view of the southern part of the Mont Blanc chain, and reached Couttet's in time for a late dinner. It was now July 13. For the next three days it rained and snowed. We spent them in going by train to Zermatt and in watching, in lucid intervals, the mountains growing steadily more white. On the 17th, however, things improved; so next morning we left the Monte Rosa hotel at one and started, with no very definite objective, up the path to the Trift. As we passed the hotel we saw three parties girding themselves. After we had laboured for some time through the snows of the Trift glacier and were breakfasting, they passed us, all bound for the Wellenkuppe. Henceforward the work of snow-ploughing would be theirs and not ours, but, none the less, the idea of tramping behind them did not greatly attract us. The face of the Trifthorn was covered with unstable snow, but we thought

it would be possible to ascend the Triftjoch gully and climb the mountain by the ridge. However, we judged unwisely. When, after incredible toil, we had got half-way to the Joch, a snow avalanche poured down the gully, turned me over, and carried me down towards my companions, who were luckily out of the direct line. This was not good enough. When I had been extricated we returned as quickly as we could to the glacier basin. Then a debate arose. We had spent a considerable time upon our unsuccessful enterprise; the sun was very hot and the snow very soft. None of us, we agreed, *wanted* to walk up to Wellenkuppe, but one of us, with that spirit which has made England what it is, felt that honour required us to do so. At length by a majority of two to one it was decided to retire: the party of idleness, *quorum pars magna fui*, had vanquished honour!

Our experience on this expedition made it plain that no high mountains would be accessible for some days. We therefore planned to journey to Chamonix by the High Level Route, climbing anything that offered on the way. To this end we went next afternoon to the Schönbühl hut. Arriving in light snow, we found four students from Leipzig dug in and waiting, rather foolishly we thought, for the Z'Muttgrat. They told us that a month's climbing in Switzerland cost them 40,000 marks apiece. For the Col d'Hérens and the Col de Bertol next day we had brilliant weather. We avoided the actual col on the first of these passes, fearing that it would treat us as the Triftjoch had done, and crossed higher up over a steep shoulder of the Tête Blanche. The deep snow made the going rather laborious, and we took fourteen hours to reach Arolla. On such occasions McLean and I are fortunate. The relative weights of our party are such that, if he or I go first and make the steps, Hallward, following behind, always sinks them a second stage. If, however, *he* goes first, the steps are at once founded on the solid centre of the earth. The practical moral is obvious, and, such is the heroism of youth, Hallward himself actually enjoys applying it!

The day of rest that followed these labours was spent in inspecting a grass tennis-court—undoubtedly the worst in Europe—of which the Hôtel du Mont Collon has become the proud possessor, in climbing the Dent de Satarma, with its slippery top, and in bathing in the blue lake. These enjoyments prepared us for the next stage of our journey. Starting at 3 A.M. we crossed the Pas de Chèvres and reached the Col du Mont Seilon at 8 o'clock. The weather looked doubtful, but,

with the help of deep tracks made by a party the day before, we climbed up and down the Mont Blanc de Seilon very easily. It never occurred to us that the proper way to get to Mauvoisin from here is by the Glacier Lyrerose. We set off, therefore, in the direct line down the Glacier de Giétroz. Getting off on the right bank below the icefall, we had the satisfaction of seeing a herd of chamois, but the annoyance of finding ourselves cut off by cliffs. We were obliged to cross to the other side of the glacier under dangerous-looking séracs. Lower down we found some chalets possessing excellent milk, and the top of a winding path that took us down into the precipitously walled Mauvoisin valley. We reached the hotel at 6.15, just as rain began to fall.

The third link in the High Level Road was unfortunately denied to us. Rain on the following morning delayed our start for the Panossière hut till 3.30 p.m. Then, after toiling up some very steep slopes, we lost the path in a fog. It was getting late ; to suffer a night out in searching for a hut would have been excessively annoying ; we abandoned the attempt and went down to Fionnay. The result was the loss of our expedition. Had we been at the hut next morning we could have got across the Col des Maisons Blanches. But by the afternoon, when we did arrive there, it was snowing hard. The snow continued all night, and, though at 8.30 next morning we made a start up the glacier, the fog and falling snow made it impossible to see anything, and, after a couple of hours, we were compelled to come back. We had not provisions enough for another night, so could not stay longer in the hut. We walked down by Fionnay and Lourtier towards Sembrancher, discovered, a few miles before arriving there, that on foot we should miss the Martigny-Orsières train, chartered a motor-car, and, with the combined help of petrol and coal, sat down to dinner in Orsières.

Recovered weather gave promise that the fourth and last link in the High Level Chain could be fashioned. The march to the Saleinaz hut, a fairly laborious one, was achieved in the course of the next day. From there we had hoped to traverse the Aiguille d'Argentière, but Maurice Crettex, whom we met in the hut, and who had made an expedition that day, assured us that the snow would be unsafe. We then thought of taking the Grande Fourche on the way to the Col du Chardonnet. It transpired, however, that some twenty persons proposed to attack that mountain, and we did not wish to be killed. In the end, therefore, we resolved to go direct to the col and see if anything could be done from there.

Starting at 2.15, we had crisp snow on the glacier and magnificent sunrise views. At the col it was obvious that neither the Aiguille d'Argentière nor the Chardonnet was fit to climb, and we came straight down to Lognan. The year before we had entered that hostelry at a like early hour after spending a gruesome night on the other side of the glacier. When he saw us now, M. Simon at first suspected that we had repeated that experience. However, our contentment with two eggs each in omelette form, in contrast with our demand then for six, won credit for the simple tale we told him. We walked down to les Tines through the woods and took train to Chamonix and to Montanvert.

A day of pouring rain and snow put all high ascents out of court. Sitting in idleness at the hotel, we planned, therefore, for the morrow a little expedition that turned out very successfully. Starting at six, we mounted by the Glacier de la Thendia to the Col d'Etala and traversed first the Petits Charmoz and then the Aiguille de l'M., returning by the slopes of the Crête des Charmoz. These last slopes are detestable, but the ascent of the Petits Charmoz from the Col d'Etala, if one sticks faithfully to the ridge, is a charming rock climb. The whole expedition took eleven and a half hours. We recommend it strongly to anybody who finds himself at the Montanvert when the high mountains are snow-bound.

The day had been sunny, and it seemed possible that the Requin would now be clear enough to climb. With this idea we started next morning at two ; but a loss of time and temper in getting on to the Mer de Glace, a sight of the whitened upper rocks of our peak, an error as to the way, and, above all, the thought of the sun-smitten glacier snows that lay between us and the rocks, drove us to substitute the Tacul. Two of us had been up this mountain before, but, even so, we missed the easy chimney at the top and had to fight our way up a rival and much more strenuous one. On coming down we found the snow slopes leading from the rocky buttress on the right of the Glacier des Périades to the middle of that glacier in a curious condition. By kicking about a little at the top we caused the whole surface to peel off in great strips, but below there was not ice or even very hard snow. When the avalanches had subsided we walked down very comfortably in the road they had made for us.

That evening we were joined by a new companion, M. V. Dixon. After a day's rest we climbed the Blaitière, just opened for traffic by another guideless party. To judge from the

appearance of the tracks they must have had very hard work. By dint of taking off our coats we just succeeded in squeezing through the narrow groove that leads to the top of the centre summit. As we were coming down—after McLean, stimulated by my ice-axe, had climbed up our spare rope at the Rocher de la Corde—the sky suddenly darkened, and our journey down the ridge was made in falling snow.

After another day's rest we crossed the Col des Grands Montets *en route* for the Aiguille d'Argentière. That mountain we ascended by the ordinary way in eight hours. There was a cold wind, and the rocks near the top were in bad condition, but there had been a party up recently who had cut steps in the ice. For variety's sake we came down by the ridge leading to the Col du Chardonnet. There was a great deal of powdered snow on the rocks and a considerable ice slope to cut down. Shortly below this, about half-way along the ridge, we turned off down a rather rotten gully on the left, and, by that and a steep snow slope, reached the Glacier du Chardonnet. Though only one stone fell as we were coming down, I doubt if the route is a safe one. On the glacier we made a snow-ice out of a tin of peaches and enjoyed ourselves very much.

Next day, August 5, McLean had to go back to England. After bidding him good-bye in Chamonix, Hallward, Dixon, and I went up a second time by train to the Montanvert. It rained as we went up, and continued to rain during the night; but at 6.30 things looked better. We crossed the Col du Géant—this year extraordinarily easy—and reached Courmayeur at half-past five in the afternoon. Next day it rained again as we walked up to Pertud. When we got up at two the morning after, with designs on the Aiguille de la Brenva, a fog of unpromising appearance drove us back to bed. By nine, however, the sky was fairly clear, and, true to our policy of not waiting about, we crossed the Col de la Seigne and the Col du Mont Tondu, reaching the Pavillon de Trêlatête some ten hours later, just in time to escape a terrific thunderstorm.

This storm precluded another impossible day, devoted to idleness and the very excellent fare which the Pavillon provides. Thereafter the skies cleared once more, and we set out at 3 A.M. for the Aiguille des Glaciers. Imitating Bicknell's party of two years before, we did not go to the col, but climbed directly up a rib some way to the left of it. However, as the upper part of this was covered with hard snow in which steps had to be cut, it is doubtful if we saved much time. The walk along the snowy ridge to the final rocks was a very fine one, and the view all

round magnificent. When, however, we came to the rocks of the North ridge we found them plastered with ice, much as the rocks of Great End are apt to be plastered at Easter. There was also a fierce wind, which blew small lumps of ice down on us. A short effort convinced us that the top of the mountain was, for the present, padlocked. We regretfully retired, this time going via the Col des Glaciers, and got back to the Pavillon a little after four. Then, intending to climb again next day, we went to bed for two hours before dinner.

The expedition that followed was the most interesting accomplished in our tour. From 3 to 7.45 A.M. we were occupied in climbing the Aiguille de Béranger by the ridge looking down on Contamines. Thereafter we passed on to the highest summit up the Dôme de Miage by a narrow snow ridge and along soft slopes. Arrived there a little after ten, we traversed all the other summits of the Dôme to the Col de Miage. This journey, which took rather less than four hours, is a most attractive one; the ridges are beautifully fashioned and sometimes very narrow; one feels remote from all the world. A growing wind and the sight of clouds gathering around and below added an element of excitement. We stopped for a meal on the col, and watched two Swiss youths, whom we had met before, completing the traverse of the Aiguille de Bionnassay. Then we walked down the rotten rib that leads to the French Glacier de Miage, found a way off it, crossed the glacier, and eventually got down to slopes of grass. There a roaring torrent barred our way. Hallward, a long-jump expert, leaped lightly among its swirling chasms, but Dixon and I, in spite of the help he gave us, made a very wet and undignified passage. Milk at the chalets cheered us for the final walk to St. Gervais, where we arrived at eight o'clock. Basking in a dream of hot baths, we were infuriated to be turned away from one hotel after another, all of them declaring themselves full. The sight of a motor-car gave us an inspiration: we begged for a lift to Le Fayet; and there, despite the late hour and our bedraggled appearance, the Hôtel des Alpes afforded us, not only the much-desired beds and baths, but also a very excellent dinner.

Once again the gallant army set out and delivered an unintended, furious, and quite unsuccessful attack on an impossible part of the Charmoz face. Then, three days after the Miage expedition, Hallward and Dixon returned home, and I was joined for a little while by P. J. Baker. On the morning after his arrival from England we started at a quarter to six and climbed the Grands Charmoz. Two days later, he, Clapham,

and I walked up from the Montanvert to the Torino refuge, and, after portentous draughts of soup, the two last of us continued over snow, rubble, and ropes to the top of the Dent du Géant. That evening we were richly rewarded by some astonishing views of Mont Blanc as seen through wavering mists. On the way back from the col to Chamonix we had hoped to climb the Requin, but the somnolence of one member of the party delayed our start next morning till 7.30, bad route-finding on my part lost us further time, and we were compelled to let slip the prize. After a day's rest, Baker and I then tried to get up the Grands Charmoz by the ridge from the Col d'Etala. But we destroyed our chance by approaching the col from the Nantillons side and wasting hours of time. When, after great difficulties, we got to the col, it was too late to think of the Grands Charmoz and we had to be content with the little one. On our ascent to the col there is one spot which I vividly remember, and which I do not propose to revisit: a sort of through route at the top of a 20-ft. chimney. This through route tempted the explorer, but, when he had entered a certain distance, his progress disturbed a number of large stones above him. In consequence of this disturbance it was impossible for him to do what he earnestly desired, namely, to return by the way he had come—because, if he had done so, the stones must have followed and landed upon his head. Consequently, with infinite pain, he was compelled to go forward, forcing the stones to pass down between his body, which completely filled the hole, and the rock—a process occupying some forty minutes of agony and objugation. But over events like these self-respecting mountaineers should draw a veil. Consolation and healing were found in the blue waters of Annécý, to which the indomitable Ford carried us, in torrents of rain, away from the storm-swept hills.

AN ADVENTURE ON THE DENT BLANCHE.

By G. M. BELL.

[Read before the Alpine Club, June 6, 1922.]

NEVER before at the end of June can the inhabitant remember to have seen the glaciers so bare and so seamed with unusual crevasses, the snow slopes and gullies turned to such sheets of ice, the rocks so free of winter snow, as in the dry year of 1921. 'Cette année il ne peut pas pleuvoir'—

that was the opinion of the guides in the Valais, who would go gaily to the hut in the afternoon under threatening clouds, certain that before dawn they could start with a clear sky. It was a year for the rock-climber, who found the cracks and chimneys free of verglas. The glacier needed more step-cutting than usual; the snow couloir proved to be clear ice; and stones falling from rock-face or steep glacier under the fierce sun were an unusual danger. Down below the valley streams overflowed their banks day after day as the snow above yielded to the heat.

The guides selected for this expedition were two local men of the valley, Jean Gaspoz and Joseph Georges, who had been companions in arms with me in previous years. In 1913 it had been a point of honour, in anticipation of the war, to reach the last summit on the traverse of the Aiguilles Rouges at Arolla before a boastful German with two alien guides from the other hotel. It was neck or nothing, and we won by the neck. In 1919, when on the way to the Matterhorn by the Col de Sion, Georges and I had embraced the earth and each other together near Euseigne, having been violently deposited there from a haycart by a bucking mule, unused to anything but military service. Later in the day, after a fifteen miles' tramp on the dustiest of roads, he had easily worsted me in a beauty competition at a Visp hotel. At the bidding of her mistress the chambermaid conducted the guide to a sumptuous room on the first floor, while I, with a new sense of modesty if not with shame, proceeded to go up higher to the fourth. In 1921, a week before the present expedition, he had shown his initiative by leading in the first ascent of the N.W. arête of Mont Collon¹; we had watched him then from the hotel terrace cutting for three hours up an ice-slope of 60 degrees in the late afternoon, to reach the top of the mountain after 7 P.M. Gaspoz this year was also a glutton for work. While we two toiled up the steep glacier to the Bertol Hut on this blazing afternoon of July 27, he was completing the familiar traverse of the Pigne, and joined us only after dark, the last of a long string of its occupants, some of whom, in defiance of regulations, continued to 'circulate in boots of ascension' as they took their places in the queue of hopeless aspirants to the cooking stove.

Over that night I draw a veil. At least we were spared the experience of one some years before in the Invergnan chalets

¹ Cf. *A.J.* xxxiv. 478.

above Cogne, when confidence in the ability of one's skin to resist intimate personal attacks was rudely shaken by the cry of triumph 'I've got 'im!' which echoed through the rafters from a distant fellow-sufferer. But when all, with a prospect of an early start, are sleeping for their lives, to snore is human, to forgive divine.

From whichever side you approach the Dent Blanche in order to ascend by the ordinary way of the South Ridge, you must serve a long and weary apprenticeship of three or four hours on the *névé*—soft and yielding on these frostless nights—before you reach the Wandfluh and are free of the ridge itself. From the Bertol Hut, left at 1.10 A.M., circulating round the undulating rim of the great Ferpècle glacier we came on the moonlit morning of July 28, and at 5.30, after having seen the day flush upon the Matterhorn and Dent d'Hérens, paused by the col for a meal; then, leaving one rucksack in cache in the rocks, we attacked the ridge and were away for the summit, Gaspoz leading. It was all straightforward to-day. Others, climbing recently, had left traces which simplified the step-cutting needed on the ice-ridge. The big gendarme, a noted obstacle under different conditions, was turned on the west, and gave us some minutes of strenuous endeavour, but no anxiety; and as we came back again to the *arête* and saw above us the delicate snow point which marks the first top of the mountain, all, except a growing disinclination for exertion at this height (now nearing 14,000 ft.), seemed to belie the traditional difficulties. Yet we knew how few are the days, even in fine weather, when the Dent Blanche does not wear her wreath of mist accompanying an icy wind, which in a few minutes may turn victory into defeat. . . . 'Eyes front': admire the marvellous view to right and left when you stop, but not as you tighten the rope to cross gingerly a knife-edge of snow-capped ice, because the eye, once off the immediate front, rests on nothing till it penetrates to the glacier 3000 ft. below, or to the *Pointe de Zinal* beyond it, from which seems to come now and then strangely the hail of a human voice. Out of breath somewhat and abominably hot, we reach the first summit, opening out, beyond the hundred yards to the rocks of the second, the long ridge of the *Weisshorn*, gleaming in the sun.

A few minutes, and at 9.30 we are on the top admiring the wonderful array of peaks and passes and glaciers all around us in the Pennine, Oberland, and Graian Alps. The inner man welcomes refreshment, and an alpine chough circles round,

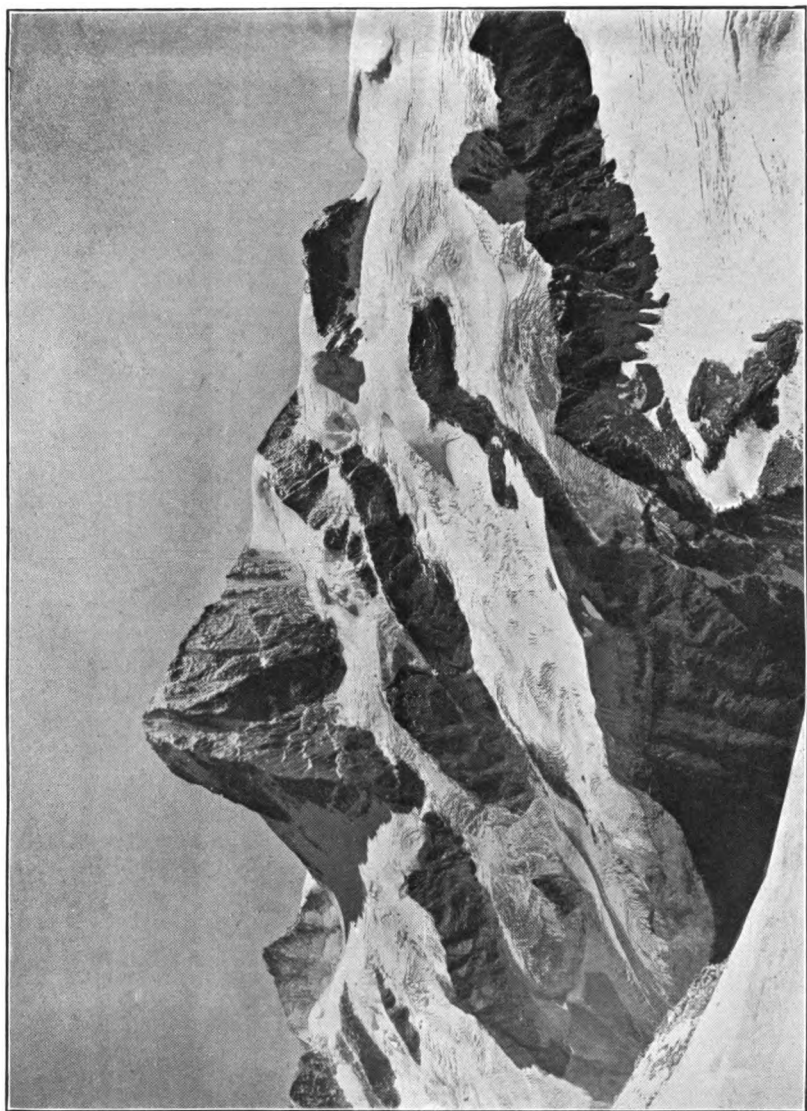
poised in space, waiting for what is left. A heat haze veils the horizon, and the refraction from snow and ice in the prevailing stillness makes us welcome the idea of making up for the sleep which we had missed in the hut. So we secured ourselves by the rope from falling out of bed into Nirvana, watched for a moment the progress far below on the ridge of a party which had started an hour after us, and then composed ourselves to sleep.

It was a queer sensation to open one's eyes later incredulously on the blazing expanse of peak and glacier seen between one's feet in what seemed an infinity of space, when the waking mind expected the narrow compass of a room's four walls. It was just as well at that moment that I was tied to the rock behind, for the impulse was to rise and cut short what seemed an incredible dream. The time had gone quickly: it was 11.30, and though the others had not arrived, we must be going. But which way? Why not descend the direct Ferpèche arête? True, neither guide had ever been down it; but Gaspoz had ascended it years ago, and he jokingly promised us beds at Bricolla or Ferpèche instead of the long tramp over the soft snow and another night in the crowded hut. Besides a traverse, especially this one, was more worth doing than a return in our steps. We listened and agreed, for we did not recognise in his plea the soft enchantment of this mountain Circe who had entrapped us. Sorely was she to repay us for thus under-rating her difficulties and her dangers. Even now, though we did not know it, she was gathering a store of stones and ice to fling at us treacherously as we descended her flanks. Looking back, I am convinced that the guides lacked in judgment in making this suggestion (which did not emanate from me). Stones must always fall on this face in the afternoon, and more especially when the couloirs are ice: and it is not easy to keep entirely to the main ridge. However, the decision was made: at 11.45 we drank a last stirrup-cup and turned our faces to the W., Gaspoz leading and Georges bringing up the rear.

The first few steps of the Ferpèche arête are sensational enough: there is not room for one's foot on the top of the knife edge of snow, and below this is ice. Each foot set cross-wise you fox-trot to the haven of rocks beyond. The Arête des Quatre Ânes descends similarly, as we had seen from the top, on the other side, and continues this tight-rope business, varied with cornices, a good way down. On our side the rocks emerge sooner, and for a time present no special difficulty,

though they become increasingly smooth and are set with strata pointing downwards at an angle of 45° . One place, however, I remember, about an hour from the top, where a weather-beaten end of rope fixed and cut short showed the straits of a previous party under probably more severe weather conditions. We managed to turn this precipice on the right without adventitious aid. Then ensued a variety : for we were forced off the main arête of the mountain on to a subsidiary ridge to the left, reached by cutting down an ice-slope, on which we steered for such knobs of rock as provided resting-places. Having reached a fancied security, we began to descend an interminable series of slabs, sloping outwards and rounded, where holds were few and far between. The point of the axe set in cracks which the foot could not reach proved extremely useful, the seat of one's breeches sometimes even more so : only the state of my woollen gloves reminded me after a time that there may be limits even to the resisting power of Harris tweed when in contact with rocks.

So we progressed slowly but surely, noting the arrival and departure of the other party on the S. ridge, till at 3.30 we had come down some 1,800 ft. The ridge we stood on was bounded on either side by couloirs filled with ice, inclined at an angle of 40° , and separating us from higher ridges which curtailed the view N. and S., though in front we looked across the tiers of the Ferpèche glacier to the Aiguille de la Za, which seemed about on a level with us. Down the iced gully on our left poured a stream, sometimes only of water, but more often of ice and stones, which fell with an alarming swish and roar, the stones ricochetting from side to side of the couloir with the velocity of bullets, and reaching sometimes unpleasantly near us. On the right was a narrower gully of similar aspect, where the hate was less continuous, though an occasional ping or crump reminded us that the enemy was only biding his time. It came : for Circe, who had lured us down this only available ridge, took care that at this point it should become perpendicular, so as to force us to one side or the other. 'Rien ne va plus.' There ensued an increase of that abominable patois, a mixture of French and Italian and double-Dutch, which is an infallible sign of difficulty or danger. At last we decide that the only thing to do is to descend into the right-hand couloir and trust that the bombardment will hold up for the time. Gaspoz descends, not happily, for he has lost by now some of the front nails from his boots, and this piece has to be done face to the wall and with great caution. The



WESTERN FACE OF DENT BLANCHE.

landing below is on a steep ice-slope. Arrived there he cuts a few steps, and then, to diminish the time during which we must all be exposed to the stones, unropes and continues cutting hastily round the curve of the gully, here perhaps 50 ft. across, to the comparative safety of the other side; while I descend crab-wise as he has done, to the ice, where I am almost at the full length of the 100 ft. rope. Joseph Georges above cannot see much, but he has a good position and sits glued to the rock—just as well in view of what now happened. ‘Venez ici à moi, Monsieur,’ says Gaspoz, and I proceed obediently along the ice-steps towards him. Reaching the middle where a considerable stream is coming down, with small stones in it, my haste to cross on the small steps results in a slip. In a flash I am swung round on the ice like a pendulum, and the side of my head meets the rock casing of the gully 15 ft. below. The rope held. ‘Are you much hurt, Monsieur?’ ‘No, it is bleeding a bit, but it is nothing serious.’ Fortunately so, for, as our subsequent difficulties showed, disablement at this point would have presented a very serious problem. My axe reposed on a ledge some 60 yards below. Gingerly I crawled along the side upwards again, and at Gaspoz’s bidding proceeded to make another attempt to cross. I was not very willing, feeling shaken, and seeing that the danger lay more especially in the middle of the couloir. But Gaspoz thought not only that it was safer on the other side, but that a ledge a little below in the red rocks on that side might lead us beyond the ridge to an easier way. (This he afterwards tried by himself, but without success.) As I proceeded carefully towards him Gaspoz left his axe behind and came to help me. But the meeting near the middle was too good a chance for the enemy to miss. The mountain loosed a stone, the size of a cannon ball, which hit me full—fortunately on the place reserved by nature and schoolmasters for chastisement. The shot told. Once again I flew round and down, but this time (having had practice) swung round and met the rock face with my hands. Gaspoz being unroped was like to be killed. He descended like lightning down the slope, but was brought up by a slight turn of the couloir 60 yards below, close to where my axe had previously lodged. But it was not the way he would have chosen to recover it. He had saved himself at the expense of some damage to his fingers in trying to arrest himself, and now cut his way up again on the other side. He was still urgent that I should cross, but after beginning another attempt I decided that his arguments were not so convincing

as the blows I had received, and called on Georges above to descend. What he, receiving intelligence by violent pulls on the rope, had thought of it I do not know. At the first slip he called out sympathetically : his silence at the second was blasphemous.

He now came down to join me, slowly and with the care which the place and circumstances demanded. A camera would have disclosed me meanwhile trying to hide my diminished head ostrich-like behind a projecting rock to avoid the rain of small stones from Georges above and the chance of an occasional larger one from the desultory bombardment in the couloir. It was probably not more than a quarter of an hour that this cramped and undignified position had to be maintained, but it seemed an age. Then at last I was free to move gingerly downwards. A little below the slope eased off and the ice had melted away. For 100 yards we were still within range of the guns, we on the left and Gaspoz on the right of the couloir ; then a traverse to the right along an opportune ledge above a very steep pitch took us out of danger. True it involved passing immediately beneath a copious waterfall : but there are times when a douche has its compensations.

It was after 5 o'clock and we were still high up. Below us stretched still an interminable series of smooth rounded slabs, requiring not so much climbing power as concentrated care and attention. Gaspoz prospected some way in front for general direction. We followed, but moving only one at a time, and it was slow work. At one place we expedited matters by using the bed of a considerable stream—which is not a way of keeping dry. At last, joining forces again, we got below the precipices to shale and debris ; a jump of 10 ft. down and 6 ft. outwards landed us on the farther side of the bergschrund, at the only possible crossing point. Earlier in the afternoon this would have been also the high road for all the missiles from above, a heap of which had partially choked the crevasse, while the rest was obvious in avalanche debris below. Now all was still, for the sun had long gone down.

It was 8 o'clock ; and though our immediate troubles were over, it was this—the lateness of the hour—which disturbed our peace. We were only on the high subsidiary glacier which is perched above the Ferpècle glacier. Along this, if we could see our way through the crevasses and over snow-bridges, lay the road to Bricolla and bed. But a very few minutes across the glacier westwards showed that this would be impossible

in the failing light. The lantern, with all our remaining provisions, reposed in the sack we had cached on the S. arête. The only thing to be done was to try to reach this by descent and reascent up the lower glacier, and so back to the hut. The distance was not very great. All depended on our being able to see and cope with the difficulties, not great by day, of the rocks and ice. So, the decision made, two narrow snow-bridges were successfully passed to reach the rocks, which by now were no more than a dark line stretching to right and left of us. Georges went on to prospect. After a bit he whistled, and we followed. But I cannot say that during the next hour I shone. Weariness and hunger contended with the urgent representations of my companions that I should proceed with all speed. Try it—this moving on unknown rocks set at a steep angle, in darkness mitigated only by the mocking twinkle of the stars. What appears flat is round; a solid stone gives way as you step on it; your boots, which you thought were nailed, turn out to be fitted with skates. A small end of candle lit for a moment at doubtful places only made the uncertainty greater afterwards, and it was not long before this burnt Gaspoz's fingers and produced unparliamentary expressions as it fell. 'Avancez seulement, Monsieur.' 'Où donc?' 'Par là.' 'Glissez seulement: je vous tiendrai.' But I have a strong objection to slipping, even when the rope is well held. After a bit it became obvious that progress without the lantern was dangerous. Reluctantly the guides acquiesced, and we planted ourselves, with room to sit and no more, to wait till the moon rose. It is not more than cool, and there is no wind; fortunately, for we are all rather wet.

We are seated in the gallery of an immense theatre. Far below on the stage the crevasses of the Ferpèche glacier loom dimly, edged by a black cliff, over which at times an ice-avalanche falls thunderously. Above, ridge of rock alternates with tier of ice, and the high, jagged crest dividing us from the Val d'Hérens is shown up in black relief every few seconds by the flashes of a number of distant electrical storms, for all the world like so many revolving lights on a line of sea coast. Far down to our right a single light at Ferpèche is the only sign of human existence in a circle of landscape embracing a hundred miles. It is very still.

So, with a smoke and an occasional drumming of the feet, the minutes pass into hours. At last a dim light on the peaks denotes that the moon has risen in the S.E., and slowly the bright patch widens and the shadow of the Dent Blanche

draws in towards us. But it will be long before the moon shines on the glacier below. However, at 12.30 A.M. we make a move, after some exploration made by Georges. Another half-hour on the rocks, involving the passage of a *mauvais pas* more felt than seen, of some big boulders, and a curious deep cleft in the solid rock, and we are on the edge of the lower ice. We descend in the half light to an evil-looking hole, and approach in its depths an ice-bridge which has fallen from above and lodged again. Georges in front taps and cuts and tinkers while we wait behind on the rope. 'How is it, Joseph?' 'If Monsieur can jump a metre and a half, we may be able to reach the other side.' But Monsieur revolts: he has not at midnight sufficient philosophy to justify a leap in the dark from the known to the unknown; for once he prefers, with political wisdom, to 'wait and see.' And so once more we compose ourselves to patience, while the moonshine creeps nearer and the lightning winks. Shelley's lines are not inappropriate:

'The cold ice slept below :
Above the cold sky shone :
And all around with a chilling sound,
From caves of ice and fields of snow,
The breath of night like death did flow
Beneath the waning moon.'

At 4 o'clock, with the approach of day, Gaspoz went off to prepare our passage by cutting steps a hundred yards lower down than where we had tried before. I awoke from a doze and watched him working his way down the ice-slope. I rubbed my eyes. For there, a yard above him, seemed to stand a figure in white as if watching over him. I called to Georges by my side to look; but he was asleep, and I forbore to wake him. Later, when I mentioned it to the other, who is a religious-minded man, he accepted the idea that it was his guardian angel whom I had seen. And perhaps it was true. At such times one may have unusual vision, though I am no believer in the modern vogue of spirit-finding.

Before 5 we were off again, refreshed by the rest in the cool air, but vastly hungry: for a few stray peppermint tablets, which I discovered in my pocket, did not go very far, and we had been out 28 hours. However, progress was rapid once we had passed the bridge over the big crevasse. Up and up we mounted without difficulty till we rejoined our former route by the Wandfluh and recovered the rucksack. Then, moving rapidly along our old tracks, we paused for half an hour in the

first sunlight to eat and drink, nearly falling asleep afterwards; and went on, reconciling ourselves to a steady plug through the soft snow. An hour before we were due at the Col de Bertol the weather showed signs of change. A strong wind sprang up, the outlying breath of a big storm which swept over France. In a short time the top of the Dent Blanche was enveloped in cloud, and lightning flashed from it. As we toiled up the last steep ascent to the hut, the wind blew fiercely and rain began to fall from a black cloud overhead. The luck of the weather had held just long enough; and after 32 hours we were back at 9 o'clock in a haven of rest. One thing alone disturbed the temper and equanimity of Georges, the younger of my two guides, who during all the long descent of the previous day had been our sheet-anchor, and with perfect sangfroid the leader in the dark hours. As we reached the door of the hut a freak of the wind whirled his hat from his head down the rocks and deposited it in a deep crevasse below. Even on the mountains 'there's many a slip. . . .'

In 1922 I made an expedition with Pierre Maurice and a friend from Ferpèche. We cut up the higher glacier (which took a long time) to the bergschrund of the W. ridge, and then followed the traverse across the glacier and rocks done the year before in the dark. We tried incidentally to discover another way off these rocks higher up, but after trying for an hour had to come back and follow the route of 1921. Joseph Georges did a good piece of guiding then in discovering it at 12.30 A.M., with no lantern and a thin moon just risen. There was no other way, and this, even by day, was not particularly easy. The whole expedition, Ferpèche to the Bertol hut, took 13½ hours, but the afternoon snow in the long plug back was very soft.

Details.

[July 28, 1921.—Guides, Jean Gaspoz and Joseph Georges de Pierre of Haudères: left Bertol hut, 1.10; breakfast base of Wandfluh, 5 to 5.30; top of Dent Blanche, 9.30; began descent, 11.45; accident, 3.30; reached bergschrund, 7.50; rest on rocks above lower glacier, 9.40 P.M. to 12.30 and 1.30 to 4.40 A.M.; regained hut, 8.55. Both guides did exceedingly well in trying circumstances.—G. M. B.]

THE NORTH-WEST BUTTRESS AND TRAVERSE OF THE MÖNCH.

BY H. J. HEARD.

[Read before the Alpine Club, February 6, 1923.]

THE ascent here described was done as long ago as 1897, and there is one ground and one ground only for this paper, *i.e.* that some one will be stirred up to do justice to the range and district. I consider that the Oberland has been shamefully neglected by climbing men. Few know it as it deserves to be known, for I do assert that there is a charm peculiar to it, a freshness and a variety which is lacking in most of the well-known centres. These ramparts of the Alpine Fortress stand so near and dominate so directly the lowlands and lakelands that the contrast is the more striking.

The weather may be coy and capricious, yet do not the poets tell us this is the charm of the fair sex?

My first thought of this climb was not from books, for I had not read a word about it, but when we were crossing the Jungfrauoch in 1896. (Be it observed, before the railway and station had desecrated the damsel's fair neck.) As you hew and hack your way upwards you get an excellent view of the profile of the Mönch. Somebody has said that modern climbers are reduced to going up mountains the wrong way. But does the first ascent confer a patent right to compel everyone else to go the same way?

I hope you will forgive me if I break one of those unwritten laws or customs which arrange all the matter in historical order; an excellent plan, no doubt, but now and then better observed in the exception. For the personal element is the one force which can recover the vital interest in the dead record. As to the records themselves, 'are they not written in those dear little handbooks of the *Climbers' Guide* series?' We will not forget or ignore our predecessors. Von Fellenberg, with C. Michel and P. Egger, bivouacked high up on the rocks in 1866, failed the first day, crossed the next, but were benighted on the rocks above the Jungfrauoch. They were followed in 1871 by Herr Bischoff with P. Egger and P. Bohren. Then came A. W. Moore in 1872 with Melchior and Jakob Anderegg. This was the sequel to an attempt by Moore and George with Almer in 1862. Two further ascents followed within four days,

viz., Mr. T. Cox on July 25, and Miss Brevoort and Mr. Coolidge on the 27th; while a few days later Mr. J. H. Kitson and Almer, *in the day*, made the ascent from the Wengern-Scheidegg, descended by the S.E. arête to the Ober-Mönchjoch and by the Jungfrauoch to the Scheidegg! Other ascents followed them, including Dr. Dübi in 1877. The ice-cliff, the main difficulty of the climb, then appears to have got worse, for Messrs. Jose and Fairbanks in 1886 only reached the top at 6.10 p.m., and Herr Hügli in 1894 took 13 hours.

The first descent was made by the late F. T. Wethered with Chr. Almer and C. Roth in 1875, 'the snow being in splendid order . . . the number of steps which Almer cut was very great.'

In August 1895 Mr. Claude Macdonald and the late Christian Jossi brought off a brilliant coup. Starting from the Roththal hut, they crossed the Lauithor, ascended the Mönch from the Jungfrauoch by the W. ridge and then descended the N.W. buttress. Not everyman's route!

As our expedition was the next we had better make a start. On August 10, 1897, at 2.30 a.m. we left the Guggi hut (the old one, of course). I had as guides Peter Brawand and Peter Baumann (Guggen), then a veteran, who died only last year. I must own that without Brawand's leadership and excellent ice-craft I do not think I should have had a chance. Let the guideless climbers smile, but few would not be the better for the object-lessons which a really good guide can give. There was bright moonlight and we had no difficulty on the easy rocks, which rise steeply but in regular steps like the pyramids. There was only one drawback, every now and then we came across a slab with *verglas*, which the dark shadow of the moonlight concealed. You all know the sensation, it makes you take extreme care. Near the top of these rocks we suddenly came on a party of engineers prospecting for the coming Jungfrau railway. But the top of the Mönch was not their objective—theirs the *iron*, ours the *icy* way; so we parted, mounting the snow-slope which brings you to the foot of the critical place, the well-known 'Nollen' or 'Bulge,' usually of hard ice. Here we halted for 20 minutes for our second breakfast, for the weather was cold and our task thrust obtrusively before us. Indeed that was the last time we stopped or undid the sacks till 5.30 p.m. when we crossed the Bergschrund on the other side. There was no shirking the 'Bulge.' On either side whether to the Eiger or the Guggi Glacier, the drop was sheer. So also was the ice overhead.

We pushed Peter up to a point where he was able to hack a small but sound step and handhold, the latter quite as important as the former. Some previous climbers had brought a ladder, but it was then standing straight upright out of reach, a full 30 ft. away from the ice cliff and firmly frozen in. I shall never forget the chunks of ice which descended on my devoted head; I longed for an iron coal scuttle instead of my hat. I don't know the exact height of the vertical (or nearly vertical) ice bulge, but I should think 40 ft. I followed, well knowing that the support of the rope was merely moral, and that I must not slip. My experience is that people very seldom do slip in such places. All the same, moral support makes a difference—it keeps your balance, if nothing else—a piece of string is better than nothing. The finger-holds in the ice were pernicious cold, and by the time I reached the top—for you could not use gloves—I had not much feeling in my four digits. Peter Baumann first sent up the sacks and then came up himself, none too pleased with what he called a 'verrückte Kletterei.' Of course he had the pull on both of us, so he was quite secure. But the slope above was still very steep and the ice very hard. Naturally, and very properly, Peter Brawand cut the steps very far apart. If my legs are short they were fairly supple. One good step is worth three toe-caps or scratches. A slip was not to be thought of, so I gathered up the rope and kept close to heel. By this means I was able to fix Peter's foot while hacking and improve the step for myself. This stunt lasted about three hours, but I had no hands for my watch. At last the slope became not too steep for snow to lie on, so we had the luxury of a change, and stamped on in the hope that we should soon be on the ridge. But alas, the slope grew steeper and blue ice was only masked by a film of snow! For a time we cut straight up, but it was plain that daylight would not see us clear of it, so we made a traverse to the right to strike the ridge, usually rock, which runs down to the Jungfrauoch. A traverse on a really hard, steep ice slope is not a form of climbing which the most hardened mountaineer hankers after; for not only must every one stand for himself, but also for his comrades. However, care and time took us across, and at last we plunged into the snow, which filled up all the spaces between the rocks right up to the top. It is very steep and the snow was frozen floury. We floundered along, pulling ourselves up by splinters of rock till the rock ridge petered out into a tolerably firm snow ridge. By this time we were all pretty well out of breath, and I well

remember hearing my heart beat so clearly that it seemed an outside sound. At 2.30 we reached the summit. But alas, not to rest, for a very bitter N.W. wind made even a halt impossible. We had, besides this, as a spur the thought that the descent was mere child's play, a tourist's trip. Mr. Dent tells us somewhere that he once came down almost the whole mountain in a series of glissades. I can only say that the mountain must have mightily changed since then. Soon after we had passed the summit we came upon a huge cornice which 120 ft. of rope could not span, for we were all on it at once. The overhang was not very great, but I have since seen that Mr. Moore and his guides broke through and only escaped disaster by an ace. The day, however, was really cold, and the snow in capital condition. There were, besides, big drops or pitches of 8 to 10 ft., down which we cut steps till the slope began to ease off, and at 5.30 P.M. we crossed the Bergschrund (chock full of snow). Here we called a halt of half an hour, for it was quite warm and we could see our destination, the Concordia, before us. But seeing is not achieving, for four miles or so of soft snow lay between us, every step well up the thigh. The only way to keep going was to count a hundred steps, or rather plunges, stop, take breath and take another hundred, or else persuade the man behind that it was his turn to lead. How ready we were to waive the leadership! Only at 8.30 P.M. did we reach what the old lady called 'terra-cotta' and scramble up the rocks to the hut, only to find that our friends, who were to have met us from over the Roththalsattel, had not arrived. The provisions ordered had been sent up from the Eggishorn, including eleven bottles of wine, of which two were champagne. The Concordia in those days was a beastly hole; but we slept well and soundly, and fondly hoped that the fine night would bring our friends over the next day, but again disappointment was in store for us. For at least six hours I sat gazing out on that expanse of snow, and watched party after party develop from specks into human beings, but not into the well-known faces. Poor old Peter Baumann, who was a born pessimist, sat beside me like Edgar Poe's raven, ever croaking 'Nevermore.' (His son was one of the guides of the other party.) 'Sie sind verunglückt. Sie sind sicher kaput,' was his mournful refrain. All day no news from below. So on the morning after at day-break we made a start for the Mönchjoch, and without a halt crossed the Ewigschneefeld, which was firm, over the Mönchjoch, and passing Bergli, descended the Kalli zig-zags, arrived at the Bear Hotel at 11 A.M., only to find our friends in the lap

of luxury and wondering when we would return ! A few winged words as to what we thought of them for not telegraphing relieved the tension.

We also found that Captain Farrar, led by Daniel Maquignaz, had climbed the buttress on the 14th, and moreover had come down by the same route.¹

THE NORTH FACE OF THE MONTE DISGRAZIA
AND OTHER CLIMBS.

By W. N. LING.

[Read before the Alpine Club, March 6, 1923.]

IN the exercise of his new authority the honorary secretary has commanded me to read you a paper to-night. I am driven back to ancient history, the year 1910, the month of August, although an admirable account of this ascent, written by my companion, Harold Raeburn, has already appeared in the JOURNAL.

After some training climbs at Arolla and Zermatt, including an attempt on the Lyskamm, frustrated by bad weather, Raeburn and I journeyed to Sondrio in Val Tellina and up the beautiful Val Malenco to Chiesa, where we spent a delightful day. We proposed to attempt the ascent of the Disgrazia by the N. face, which had not been done. The magnificent appearance of this mountain and the thrilling accounts in the JOURNAL of its first ascent by Mr. Kennedy,

¹ [Times were : Kl. Scheidegg, 2.10 A.M. (splendid moon) ; ridge overlooking Guggi, 5.20 ; last rocks, 6.15-6.45 ; foot of 'Nollen,' 7.50 ; on plateau just under rock ridge, 9.22-9.40 ; summit, 11.6-11.13 (cold) ; back on plateau, 12.15 ; foot of 'Nollen,' 12.55 ; Scheidegg, 3.45 P.M. It will be seen that we took about 1½ hours to ascend the 'Nollen'—the fine soup-plates cut by Mr. Heard's leader were partly melted and required a great deal of cutting out, as no liberties can be taken with ice at that angle, which must be little short of the vertical. We used crampons and cut very few other steps. We had our own steps for the descent, whereas Mr. Wethered's and Mr. Macdonald's parties had, of course, none. At the same time, in my own observation this ice 'Nollen' varies a lot. I saw it, some years later, when it had apparently *run*, as though the ice had become viscous, and the angle was then very much less. It can be an arduous ice climb.—J. P. F.]

of Messrs. Pratt, Barlow and Still's ascent from the Ventina glacier, and the guideless ascent by another route from the Ventina glacier by Messrs. Charles and Laurence Pilkington and Hulton, had greatly excited our interest. Next day we chartered a porter, rejoicing in the name of Alvaredo Casimiro, and followed the charmingly wooded bank of the stream in some three hours to Chiareggio, where we stopped for an hour to lunch at a primitive inn. An hour and a half later, at a height of 5800 ft. in the Val Ventina, we paid off our porter and prepared to *gîte*.

We had endeavoured to explain to him in our broken Italian that we intended to ascend the N. face of the Disgrazia, to which all he had to say was that it was 'molto brutto' and recommended us to try the Passo di Mello instead. When we saw it we rather agreed with his verdict. It certainly looked appalling. After he left, we went exploring and finally decided on a higher *gîte*. We went back, and about 6.30 we had our dinner and went on to our *gîte* at a height by aneroid of 7200 ft., on the ridge running down from the Pizzo Ventina. There we found a grassy ledge, on which we laid juniper boughs, lit a fire and were quite comfortable. It was not too cold, but a drip of water from above was rather annoying and denied us sleep. The night was fine, and the sky lit by stars. We got up at 11.40 after four hours' rest, and after an early breakfast, or late supper, left our shelter at 1.10.

Our way lay up steep grass slopes and scree, broken rocks and snow. At 2.30 we were on the glacier and put on the rope at a height of 8500 ft. Then we had two hours of hard work through the huge *séracs* and up steep snow, quite difficult, after which we gave ourselves five minutes' halt. Then on again, laborious work, up steep slopes to just below the bergschrund, 10,500 ft. at the foot of the rib of snow or ice we proposed to attack. There we halted for twenty-five minutes for food—6.10 to 6.35. The weather was favourable, and we were pleased with our progress thus far. We now gathered ourselves together, put Mummery spikes in our heels and tackled the schrund. This was passed without much difficulty, but the slope above it was very steep, 62° measured by clinometer. However, though steep, it was hard, good snow, and we were able for some distance to kick our steps, then we had to take to cutting. We made for a small island of rocks, which were very steep, and ascended them. From the top of them a very narrow snow arête led out into the general face, where the angle was measured 53°. To our left was a large massif of

rocks, which, however, on inspection proved quite impossible, and sheathed in ice with no hitches, and we had no alternative but to take to the face again and cut. The steps could not be described as roomy, nor very near together, for we had a long way to go, and it passed through the mind of, at any rate one of us, that if we had to return the same way they would need a good deal of improving. The snow was very thin and we had to be very careful. It was no place to slip. Our choice of route was restricted, for we had to avoid the parts which were overhung with cornices.

We tried here and we tried there looking for patches of snow, but there was no easier route; so we just had to cut and cut in hard ice, slowly progressing upwards till we came to a jutting-out rock, where we managed to clear out a hitch. The rocks immediately above us were impossible, and it was necessary to traverse the slope diagonally upwards to see whether they were better at their other corner. My own impression was that we would have to go down again. However, Raeburn started off across the face, and I kept to the hitch till all the rope was out, and then followed. Raeburn cut on, and at last came to where there was enough snow to hold him. I followed, with hopes rising, and we came to the foot of the rocks. A ledge took us along to the foot of a small chimney. We tried this and it was hard, so we did not persevere, but, further along, the ledge looked a little better, and we finally climbed the rocks to the ridge, or first top, with much rejoicing. It was 3 o'clock, 14 hours from our bivouac, and $8\frac{1}{2}$ hours since our last meal, so we were glad to sit down and refresh the inner man. Then we went along the ridge without special difficulty to the summit, 3.35. We had thus far been very fortunate with the weather, but it now changed and the valleys were full of mist. We retraced our steps along the ridge, collected our baggage, and descended by the S.W. face and Predarossa glacier, easy going, though the snow was soft on the glacier and lower down we came into mist. At 5.50 we reached the Capanna Cecilia and made a welcome brew of tea. We lay down on the bunks to rest, intending to have dinner later, but did not wake up till breakfast time, to find heavy showers and misty weather. We left the hut at 9.0 and made up to the Col Remoluzza and over into the Val Pioda, then over a spur into the Val Torrone. It was now very misty, and we wandered about for some time till we came across a boy, who could, however, give us no useful information; so we decided to return to the *baita*, or shelter, we had

passed and to spend the night there. It was now raining in torrents and we got pretty wet. Our provisions were low and we made a frugal meal of soup.

We had some meat, but it had formed an unfortunate combination with the contents of our methylated-spirit flask. At that time whisky was still obtainable, and we were neither of us educated to the taste of methylated spirit, so we had to throw it out. Our firewood was damp, and each of us took it in turn to blow to keep it alight, while the other got some rest. At 4 o'clock next morning the weather was rather better, but food was very short, and we debated whether to take the prudent course and go down the valley and round by train, or chance it and make a push for the pass. The latter course prevailed, and having divided and gnawed our last hard roll we set out at 5.30.

Two hours' steady pull brought us to the Allievi hut, and here we fried our last egg. In an hour and a quarter we were at the Zocca Col, and were much impressed with the rock peaks. The weather was now fine, and we made good progress down the easy Albigna glacier to the then unfinished Albigna hut, by which we halted for an hour and made tea, and on to the road and Vicosoprano, where an enormous omelette satisfied our inner cravings. We took the diligence up to the Maloja. After a day's rest here we went to the Boval hut. Next day we were driven back by bad weather, but two days later we left the Boval hut at 2.0 A.M. to try the Crast 'Agüzza with descent to the Capanna Marinelli. It was a beautiful morning and the snow was good and hard. In four hours, including twenty minutes for breakfast, we were on the Col between the Crast 'Agüzza and the Piz Argient. We ascended on good snow to the rocks, which at first were easy; then they got very slabby and iced, and we had to make one or two traverses; the general angle was steep. In one place Raeburn had to leave his axe and clear the holds of ice with his knife. The ridge itself was very narrow and corniced and we had to be careful. We reached the summit at 8.15, but it was too narrow and exposed to stay, so we climbed down the ridge for a quarter of an hour and stopped for breakfast. Then we climbed down the corniced ridge, taking to the gully occasionally when there was snow.

From the ridge we got down to the Scerscen glacier by a gully of soft snow. The snow on the glacier was fairly good, but there were some crevasses. We did not hurry, and reached the Marinelli hut about 2.0. There we met Dr. Balabio, the

authority on the Disgrazia Massif, and spent a very pleasant afternoon. He was very interested in our ascent.

Our plan for the next day was to ascend the Monte di Scerscen and carry on along the ridge to the Bernina. We left the hut at 2.20 and in good snow made excellent progress to the foot of the Fuorela Tschierva-Scerscen, up steep slopes and across the bergschrund to the rocks at 5.30. These were steep, but easy and good, and we made height rapidly. Then they became much steeper and covered with ice and snow. We came to a very steep chimney, which was the key to an overhanging step, but it was full of ice and quite impassable. We had to turn the difficulty by an awkward and dangerous traverse across a steep wall of ice. Above this steep rocks led to the edge again, and by this we ascended to the main ridge close to the S.W. peak. There we followed a narrow snow arête to the highest summit—10 o'clock. It was now misty, but we could see the extremely narrow and corniced arête, which led on over the towers, which crown the ridge.

Below the ridge on either side the snow lay thinly on ice. Now followed a very exciting and difficult piece of work. The greatest care and much time had to be expended in working along the cornices piled up on the narrow ridge; sometimes they had to be broken down, then we would be astride, now balancing along the top, now gingerly kicking steps while we pressed delicately on the top for handhold. It was exhausting work and the tension was great. We compared it unfavourably with the Viereselsgrat, of the Dent Blanche, which we had climbed in similar conditions. One or two of the towers we cut on the N. side, one we took on the S. whenever the state of the snow would allow. Eventually at 3.25 we reached the last dip but one, the main one at the head of the big couloir, from which the ridge springs to the Bernina. There we halted for ten minutes. The weather had become worse, and we were soon in the middle of a thunderstorm with hail and snow, and it became very cold. We soon saw that we must give up the Bernina and get down.

We tried in the direction of the Tschierva glacier, but we could see nothing. The snow soon became very thin and dangerous, and after going down 250 or 300 ft. we had to return to the Col. On the S. side we were sheltered from the wind, and after some hard work we got down to snow in the couloir. We descended for some distance till we came to a steep icy pitch, and here we had to take to some very badly iced and difficult rocks, which Raeburn managed with great skill. By means of these we were able to turn the pitch and regain the

couloir. From this point a groove, cut by snow avalanches, ran down the centre of the couloir, and, as it was now evening and safe, we tried this and found the bed of it better than the snow at the side, which was hard. We descended this by ropes' lengths, hitched, kicking steps for 2000 ft. It required care, for we came on ice from time to time. We arrived safely at the foot at 9.0, and found the schrund filled with avalanche snow. We were glad to be out, and now lit the lantern. The slopes below went all right and we trudged across the glacier to the Marinelli hut—10.20—twenty hours' hard work, but we were lucky not to be benighted.

We had now to get back to Pontresina, and after our long day we were not very early starters. It was 8 o'clock when we left the hut, intending merely to cross the Crast 'Agüzzasattel. It was hot and we did not hurry, and reached the Col at 12.30. There we rested for an hour and made tea. It had occurred to us both that, when we were so near, it was a pity not to go up the Bernina, so on we went, and at 4 o'clock stood on the summit. We stayed for half an hour to admire the magnificent view and a fine fogbow, then descended to the Boval hut and on to Morteratsch—8.40.

After our three days' hard work we felt we deserved the excellent dinner we got, and the luxury of a carriage to Pontresina.

CANADIAN CLIMBING NOTES.

By VAL. A. FYNN.

Mt. Lefroy,¹ 11,220 ft.

THE usual route² in ascending this mountain leads from Abbot Pass up the snow or ice slopes of the western face directly to the summit. These slopes are broken in places by very steep rocks. Sometimes, late in the season, it is preferable to traverse the face diagonally to the left or N. and reach the main ridge a little to the N. of the main peak. Another route, first taken by Rudolf Aemmer, some ten years ago, starts from the Victoria glacier and in the main follows the N. ridge of the mountain. This ridge forms the sky-line

¹ See Interprov. Boundary Comm. Atlas Sheet 15 (in Club Library).

² See upper illustration, *A.J.* xxxii., opp. 74.

as seen from the Château Hotel. The lower end breaks off sharply, falling to the Victoria glacier in a series of impossible-looking pitches. The approach to the upper slopes of the mountain from the Victoria glacier, as well as from the wide gorge which leads to Abbot Pass, is guarded by a practically perpendicular wall broken by a single deep-cut couloir. It is impossible to follow the bottom of this couloir all the way, since the upper quarter is devoid of snow or ice and overhanging. I understand that the first and only party took to the rocks on the left or E. side, thus gaining the snow or ice slopes above the perpendicular wall. These slopes are interrupted by steep, and mostly rotten, rock walls and ribs. When there is little snow the climber must struggle with scree and ice slopes which lead to the N. arête at a point where the latter becomes climbable.

On July 31, 1920, W. C. Escher, S.A.C., of Zurich, and I left the Château at 3.5, reached Victoria glacier at 4.30 and the foot of the couloir at 5.10. This couloir is well shown on the photograph taken from the S. slopes of Mt. Whyte. To the right are some broken snow-covered rocks giving easy access to the middle of the couloir. At that point the wall on the right becomes extremely steep, but a little higher it is broken by a steep chimney, reached by utilising the snow in the main couloir. The chimney affords plenty of holds, although all are worn smooth. Near the top a tunnel leads off to the right, and one emerges on the snow slopes above the perpendicular wall through a large hole. Large quantities of water coming down the chimney made this part of the climb trying. There is no difficulty in reaching the ridge from any point above the wall referred to, particularly when there is plenty of snow on the slopes. The snow slopes were reached at 7.5, and after twenty-five minutes' rest we set foot on the N. ridge at 10.30, and reached the S. peak, after twenty-five minutes' halt, at 2.25 P.M. The weather was very warm but clear, and there was much ice on the ridge, requiring over two hours of step-cutting. Leaving the summit at 3 P.M., we retraced our steps along the nearly horizontal part of the ridge, and crossing the W. face diagonally made Abbot Pass at 7.20, and the hotel at 9.25.

*Mt. Quadra,*³ 10,400 ft.

The same party left the chalet at Moraine Lake at 2.45 A.M. on August 5, took the trail into Consolation Valley and con-

³ See note 1.

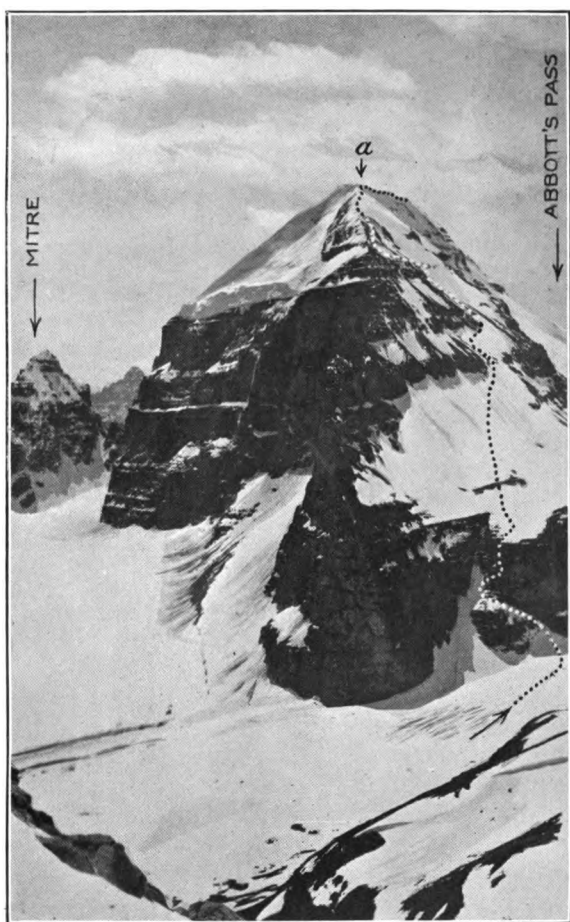


Photo V. A. Fynn.

MT. LEFROY.
From S. slopes of Mt. Whyte.

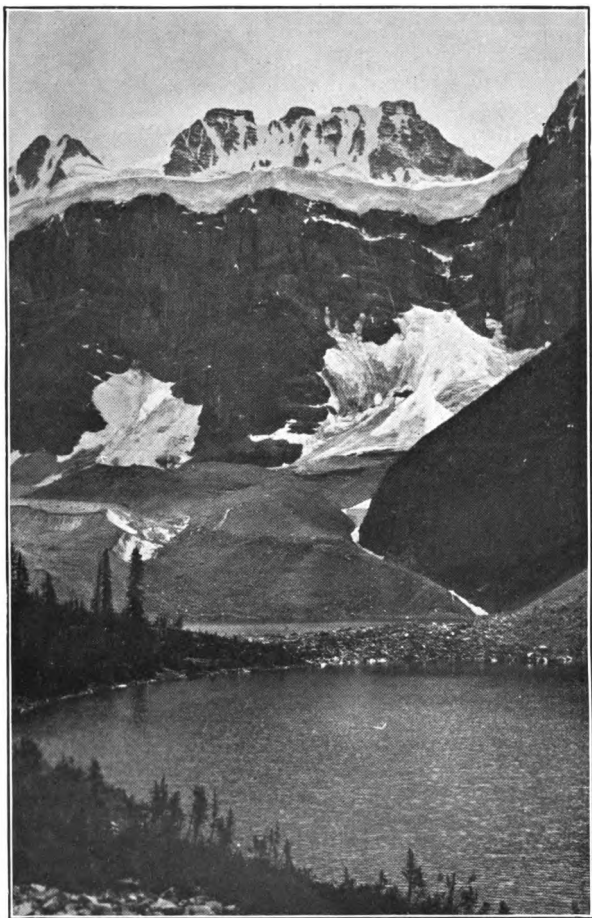


Photo V. A. Fynn.

MT. BIDENT (left) AND MT. QUADRA (right).

tinued past the lake up to Consolation Pass, 8300 ft., which was reached at 6.45. Descending as little as possible, a buttress of Mt. Bident reaching S. in the direction of Boom Lake was circumvented and the glacier at the back of Mt. Quadra reached at 7.50. Giving thirty minutes to breakfast, the glacier was crossed to a Col on the S. ridge of Quadra. The W. side of this Col is one mass of fairly large and distressingly loose stones at a steep angle. Leaving the Col at 11, the summit was reached at 2.10 (second ascent) after an interesting scramble over the very rotten ridge. The weather was perfect, and a splendid view was enjoyed. Leaving at 2.45, the Col was reached at 5, the breakfast place at 5.55, and after thirty minutes' rest we made Consolation Pass at 7.10 and were back at Moraine Lake at 9.30. The amount of walking necessary to ascend Quadra, Bident, or Chimney Peak from Moraine Lake is out of all proportion to the length or quality of climbing to be had. The same is true of some of the Ten Peaks.⁴ Any of the first six of the Ten Peaks can be reached from Moraine Lake, either via Consolation Pass or by means of a steep and often treacherous couloir between No. 3 and No. 4. This last approach is also very long, since fully five hours are needed to reach the top of the couloir in question, and falling stones may preclude a return by this route. A hut is badly needed somewhere back of this ridge, and the most central location appears to be W. of the ridge joining Mt. Quadra and Chimney Peak. Nos. 7 and 8 can only be reached from Prospector Valley, while Neptuak and No. 10 are accessible from Wenkehemna Pass, 8521 ft., about three hours' walk from Moraine.

*Mt. Freshfield,*⁵ 10,945 ft.

On August 21, A. L. Mumm, C. B. Eddy, Moritz Inderbinnen, Rudolf Aemmer and I left a camp at the foot of Freshfield glacier at 3.25, followed the glacier for about seven miles to the foot of the peak, crossed to the S. of the eastern ridge by way of a low ice-covered saddle, and thus reached the upper snow and ice slopes facing Mt. Pilkington. These slopes were ascended to the foot of the final peak, and the latter reached over easy rocks at 1.50. Leaving at 2.40, the party retraced its steps and was back in camp at 7 P.M. The weather was perfect, and the view from the summit most interesting and very remarkable because of its extent. The Freshfield glacier

⁴ See note 1.

⁵ See Interprov. Boundary Comm. Atlas Sheet 18, published with this JOURNAL. See illustrations, *A.J.* xxxiv. 388-9.

44 *First Mt. Clemenceau Expedition, July-August, 1922.*

divides at the foot of the peak, the branch running S. in the direction of the Mummery peaks being about eight miles long; the N. branch which goes past the foot of Mt. Dent seems to be about six miles long. Mt. Pilkington is a very fine and rather difficult looking peak. The same is true of Mts. Mummery and Walker, although little of these can be seen because of Mt. Pilkington. The view into Bush Creek and out towards the Columbia is most fascinating. The Columbia icefield and the peaks surrounding it could not be seen very clearly because of smoke, but Mt. Forbes was very prominent and imposing.

FIRST MT. CLEMENCEAU EXPEDITION, JULY-AUGUST, 1922.

By HENRY B. DE VILLIERS-SCHWAB.

FAR out on the Canadian National Railway, about thirty miles E. of the Continental Divide at the Yellowhead Pass, lies the little town of Jasper, now the administrative centre of Jasper National Park. Some sixty miles S., along the Athabasca River and its big tributary, the Chaba, lies magnificent Fortress Lake, its eastern extremity but a few hundred yards from the Chaba, and just across the line in British Columbia. Six and a-half miles away, its western end drains into turbulent Wood River, which, after flowing past the base of Mt. Serenity (10,573 ft.), first climbed by Messrs. Palmer, A.C., and Carpe, Am.A.C., in 1920, is joined by Clemenceau Creek and then flows away through a canyon into still wilder territory, eventually to join the Columbia River.

In this angle between Clemenceau Creek and Wood River, and seeming to block the end of the valley, stands Bras Croche (10,871 ft.), while farther back, towering above Clemenceau glacier, stands the majestic form of Mt. Clemenceau (12,001 ft.), bearing a striking resemblance to the well-known view of the Jungfrau from Interlaken.

This splendid peak is the fourth highest summit in all the Canadian Rockies, and is to-day its second highest unclimbed mountain.¹ To the few explorers who have seen it from a distance, among them Professor A. P. Coleman, A.C., and Mr. Walter D. Wilcox, Am.A.C., and to the few trappers and grizzly bear hunters who have penetrated to this Wood River

¹ The North Twin (12,085 ft.) is the highest.

region, the peak has been variously known as Misty Mountain or the Pyramid ; but not until 1920 did the Canadian Survey Party establish stations in the district, determine its height and importance, and officially bestow upon it the name of Mt. Clemenceau.

Allen Carpe, having been greatly impressed by the sight of Mt. Clemenceau from Mt. Serenity in 1920, proposed the subject of an expedition to this district to the writer in January 1922, and eventually Henry S. Hall, jun., Am.A.C., became the third member of the climbing party. The leisure hours of the ensuing six months were none too many for the proper planning of the expedition, and the preparation of a number of special articles of equipment, such as extra-light sleeping-bags and tents, suitable for back-packing.

Thus, on July 27, 1922, the three climbers, together with the packer-guides, W. D. Harris and H. J. Mellor, with young Dean Swift as assistant-packer, and employing six riding and seven pack horses, set forth from Jasper completely equipped for a four weeks' campaign.

The first day's march was twenty-two miles to Athabasca Falls ; the next of twenty miles farther along this river ended at the confluence of the Sun Wapta ; while the third, which should have taken us about eighteen miles to the eastern end of Fortress Lake, ended just below the ford of the Athabasca, owing to the writer being kicked in the knee by one of the pack horses. On the fourth day the Athabasca was forded, and in turn the Chaba, when, after crossing the Continental Divide out of the Park into British Columbia, the march continued through the trailless woods on the north side of Fortress Lake until darkness forced a bivouac, after barely three miles net distance had been gained. From 7.30 A.M. until 4.30 P.M. the next day we laboured, negotiating the remaining four miles to the W. end of Fortress Lake, an advance party of two chopping out a way through great fallen trees, patches of devil's club, and thickets of obstinate alders, while the rest drove the tired pack animals with the greatest difficulty.

On Tuesday, August 1, the sixth day, Alnus Creek, which joins Wood River a mile or two below the lake end, was forded and the march continued down the valley on its N.-W. side, Serenity Creek being reached at 4.20 P.M. Knowing that the Survey party of 1920 had forded Wood River near here, this spot opposite Ghost Ridge—the long ridge between Clemenceau Creek and Ghost Creek, culminating in The Ghost (10,512 ft.)—was selected as our base camp. But, alas ! no fordable place

could be found either above Serenity Creek or in the remaining miles before the river enters the canyon ; evidently owing to the hot smoky weather the depth of the river was much greater than had been the case in 1920. Consequently, there was but one thing to do : retrace our way next day and establish base camp on the flats by Alnus Creek, where we were able to cross the two rivers before their junction. However, owing to cut-banks and cliffs on the S.-E. side of the river, horses could not be used there. This meant that back-packing would commence from this point, and accordingly the balance of the day was spent in weighing out provisions for the climbing party and preparing the back-packs.

At 9 A.M. on Thursday, August 3, the party having forded the two rivers on horseback, bade good-bye to Mellor, who remained to tend the base camp and horses, and toilsomly made its way through the woods, thick with entangling undergrowth, to the flats near where Ghost Creek runs into Wood River, which was reached about 1 P.M. After lunch a return journey to Wood River ford was made in two hours, and the second relay of packs brought forward to Wood River camp. These packs averaged only thirty-five pounds, but this was the heaviest that could be carried owing to the difficult nature of the ground. Bulldog flies and mosquitos abounded hereabouts and annoyed us greatly, while several times hornets' nests suddenly trodden upon caused unwelcome excitement.

Next day the party crossed Ghost Creek on a felled tree, made its way through the heavy woods and up Ghost Ridge, passing timber line at about 6000 ft. and continuing up boulder, debris, and rough grass slopes to the bare promontory on which is the Survey Cairn of Wood River S., height 7300 ft., which was reached about 3.30 P.M. Having cached our packs here, we returned to camp in about two hours.

The writer's knee, which, although lame, had stood up manfully since the accident on the 29th, gave out completely under the heavy strain of back-packing. Consequently, August 5 had to be devoted to summoning the aid of Mellor and some horses, and getting the writer across Wood River by a series of tree-bridges, and so back to the base camp. There he remained unable to walk at all for several days, in care of Mellor and Swift, later being taken down Fortress Lake in the large canoe of the Hinman-Philips camping party, which touched at the E. end of the lake. From there he rode back to Jasper in three days with Swift and one pack-horse, being in the company of this party as far as Athabasca Falls.

Line of
proposed
attack.

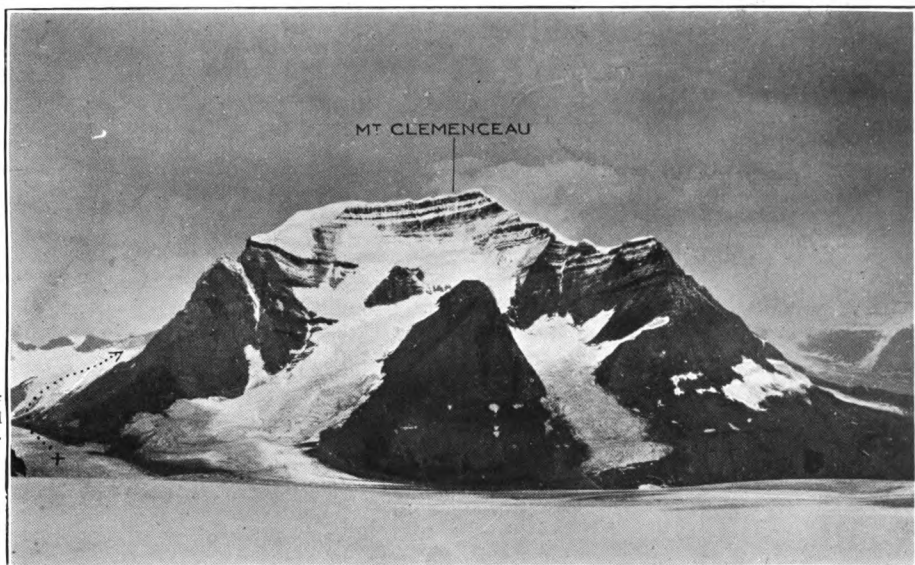


Photo H. S. Hall, Junr.

FROM CLEMENCEAU GLACIER.

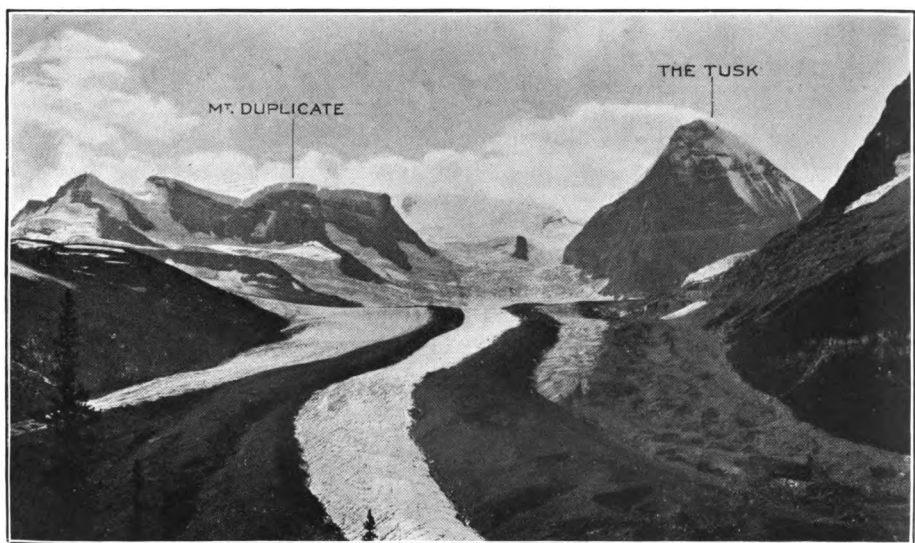


Photo H. S. Hall, Junr.

CLEMENCEAU GLACIER.

From above Camp.

Cliff
Glacier.

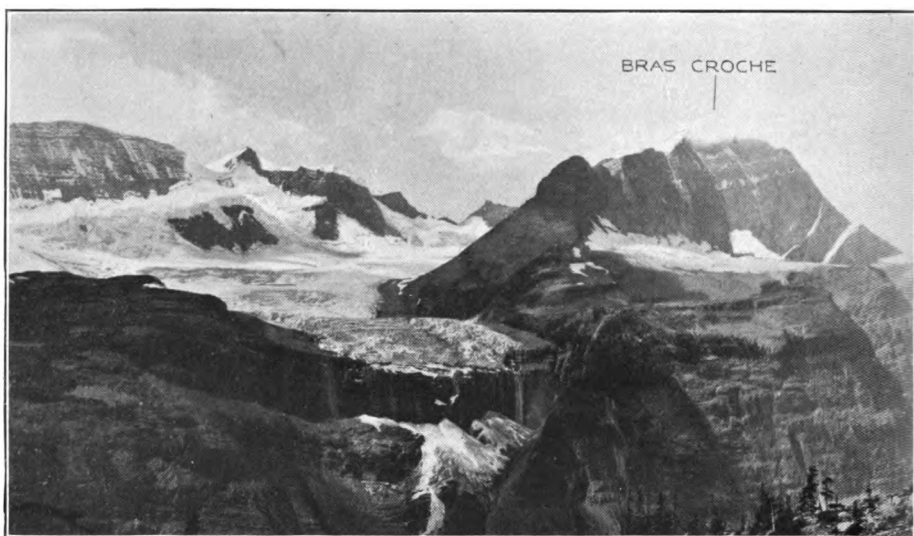


Photo H. S. Hall, Junr.

FROM ACROSS CLEMENCEAU CREEK.

Clemen-
ceau
Glacier.

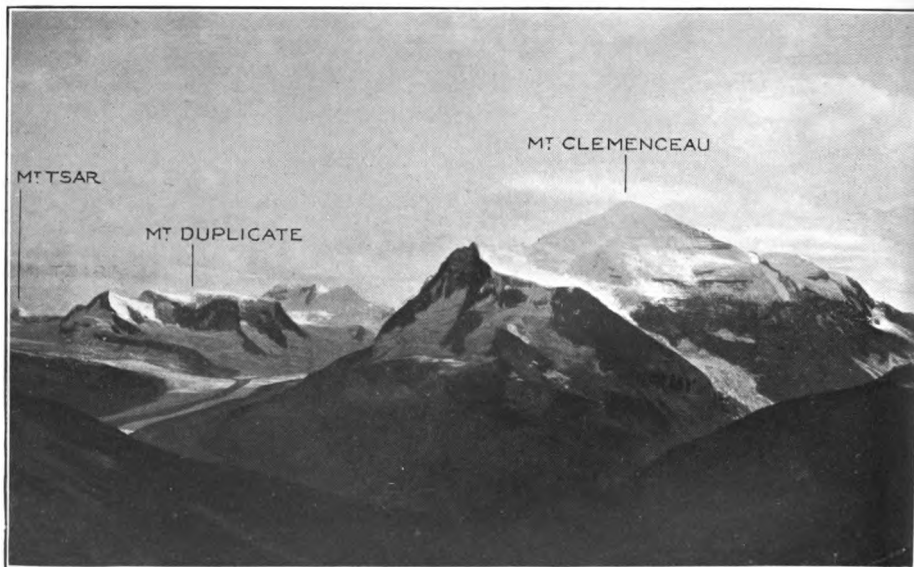


Photo H. S. Hall, Junr.

FROM SHORT RIDGE, 7,300 FEET CAIRN.

On Sunday, August 6,² Carpe, Hall, and Harris, setting out from Wood River Camp, carried the second relay of packs up the ridge, and then along the rough debris slopes above Clemenceau Creek to a point opposite Cliff glacier, where they bivouacked at 7 p.m. at a height of about 6600 ft. (Bivouac 2). After a bad night, owing to their uncomfortable position and the falling of light showers, they went on some distance, but coming to an impassable cliff were forced to retrace their steps nearly a mile before a descent could be made almost to tree line and so around the obstacle. Thoroughly tired, Camp 8 was made about 2.30 p.m. at the edge of a large rock slide just below tree line at a height of about 6250 ft. There being no water here, snow for cooking had to be procured from some distance.

Leaving at 7.40 a.m. on the 8th, the party returned to the 7300 ft. cairn on Ghost ridge in three hours; then, after a rest for lunch, they returned to camp with all the provisions and equipment necessary for the reduced party, taken from the five packs left here on the 4th.

Next morning a two hours' march brought the party on to Clemenceau glacier, about a mile above its snout, and a quarter of a mile farther on they discovered the site of the 1920 Survey Party's camp. Here, in the pine woods, about a hundred yards from the ice and close to a pretty stream, Climbing Camp was established. During intermittent rain a return was made to Camp 8, and the second relay of packs brought in.

On August 11 Carpe and Hall walked some five miles up Clemenceau glacier in a southerly direction to a height of about 8300 ft., first following a large medial moraine for about two miles, then crossing a debris 'island,' and on to the middle snowfield. When near the foot of Mt. Duplicate (10,100 ft.) a snowstorm came on and drove them back to camp. Heavy rain confined the party to camp next day, and that night it snowed down to the 7500 ft. level.

August 13 was clear, although clouds still hung low on the peaks. Starting at 8.15 a.m., Carpe and Hall walked up Clemenceau glacier beyond the middle snowfield until opposite the Tusk (11,000 ft.) they rounded the base of Mt. Clemenceau, where they halted for lunch. Later they crossed the upper snowfield in a westerly direction to the low ridge forming the

² The rest of the narrative is based on the diary of Henry S. Hall, jun.

local divide between what might be called the Clemenceau Creek drainage area and the great basin to the W. In this connection it might be pointed out that Mt. Clemenceau is entirely surrounded by glacier except for less than a mile on its N. base; nowhere does the mountain rise less than 4000 ft. from its encircling icefields, and on the N. the height is fully 7000 ft.

The ridge reached by Carpe and Hall is about two miles from the base of Mt. Clemenceau, and should afford a full view of the side on which we had proposed to attempt the ascent. Unfortunately, heavy clouds hid all but the lower portion of this face, yet enough was seen to confirm the opinion that the most promising route would be up these crevassed névé slopes to the main S.W. ridge, and along that to the summit. A good view westward toward the Northern Selkirks was obtained. Camp was again reached by 7 P.M., both climbers pretty tired.

The day after this reconnaissance was one of rest, and the ensuing was one of enforced idleness because of rain. Realising that with a weakened party, and under existing unfavourable conditions of weather and snow there was no chance of a successful ascent of Mt. Clemenceau, a minor peak was made the final objective.

On Wednesday, the 16th, in somewhat cloudy weather, Carpe and Hall left Climbing Camp at 5.40 A.M., proceeded S. up Clemenceau glacier, and over the middle snowfield until near Mt. Duplicate, when they swung first eastward, then north-eastward, toward an unnamed peak rising from the névé. This was ascended over rocks and snow patches without difficulty, the summit altitude of which is about 10,625 ft. being gained at 12.45 P.M. The name Apex Peak has since been accepted for this peak. From it distant views were had of Mt. Alberta (11,874 ft.) far across the Chaba Valley, The Twins (12,085 ft. and 11,675 ft.), Mt. Columbia (12,294 ft.) about twenty miles to the E. over the Columbia icefields, and Mt. Tsar (11,232 ft.) ten miles to the S.W. The near views of the Tusk and Mt. Clemenceau were, of course, very fine. Leaving Mt. Apex at 2 P.M. in dense mist the party arrived back at camp at 6.50 P.M.

In lovely weather the climbing party broke camp shortly after 8 A.M. next day and marched back past Ghost Ridge Cairn to the little plateau about five hundred feet below, where Ridge Camp was established at 5.30 P.M. Next morning the descent was made to Wood River, and so Alnus Creek Base

Camp was reached by 4 P.M., where all was found to be well with Mellor and the horses.

On the 19th, by a long day's work, the pack-train was driven all the way to the E. end of Fortress Lake. Thence successive marches to the Sun Wapta and Athabasca Falls brought the entire party back to Jasper in the afternoon of the 22nd.

As these lines are being written—in February—tentative plans are under discussion for another and stronger expedition during the coming summer, in which it is hoped that the knowledge gained in 1922 will prove the deciding factor for success.

THE NEW ZEALAND ALPS : HOW TO GET THERE
AND WHAT TO DO.

BY ARTHUR P. HARPER.

[Partly read before the Alpine Club, May 1, 1923.]

SO much has been written about the Southern Alps during the last forty years, both in books and in the JOURNAL, that I feel rather diffident about reiterating much that must be already known to members. In addition to this, I have shown slides here on three previous occasions, and a great many of the pictures must be familiar, at any rate to the older members.

However, one or two of my contemporaries have gently reminded me that the years are passing (a fact some of us are apt to forget) and that many have joined the Club since the views were last shown, and these will naturally be interested in seeing them for the first time—they have also very kindly said that the pictures will bear repetition. This is all very comforting, but it still leaves me wondering how to find anything new to say.

During my two months in England, so many have asked me for advice, with a view to a possible visit to our distant country, that I have decided to give some practical information which will be useful to anyone contemplating an expedition, and at the same time show slides which will cover as much country as possible.

I may say at once that I am not going to detail any difficult climbs, for the simple reason that personally I have no record for big peaks in New Zealand. When I returned there after leaving Oxford in '88, I found Mannering and the late

Marmaduke Dixon just beginning, in the most daring way, to attack Mt. Cook as their first objective—a very ambitious task for men who had very little experience in work above the snow line. As I had put in two seasons in Switzerland they welcomed me as a useful addition to their party, and in '89 I joined Mannering in an expedition to the Tasman glacier, with Mt. Cook as our goal. My first sight of these peaks decided me that the biggest could very well be left for a year or two, and more attention be paid to the numerous unexplored valleys, glaciers, and passes. Accordingly I devoted my time to that phase of the work, and left Mannering and others to continue their campaign against Mt. Cook and the other great peaks in this district.

Results were slow in coming, as was only to be expected in a new and difficult country attacked by men who had no expert guides but had to learn the 'craft' as they went along. But results did come, and the record of peak climbing in the circumstances was very creditable between '90 and the end of '94, as may be seen in Mannering's and Malcolm Ross's books, while the more humdrum exploration of the valleys, glaciers, and passes, especially on the W. coast, was fairly complete (see my book, 'Pioneer Work').

So far as the central portion of the Alps was concerned, the season of 1894–95 saw the end of the major exploration; but there remained many first ascents and first passes to be made, which have been gradually reduced during the last eighteen years. Other districts have been exploited to some extent, but much remains to be done in these, as will be seen later.

I have selected a series of slides, made from photographs taken by myself and others, which will give you a very good idea of the topography of the country, its grandeur and difficulties; while those who wish to know more about the scientific features will find some useful information in Mannering's and Ross's books, the N.Z. Government Survey Reports between '89 and '95, by Brodrick, the late C. E. Douglas, and myself, in Dr. Bell's 'The Wilds of Maoriland,' and in my own book, 'Pioneer Work,' which practically collects into one volume the most interesting parts of the earlier publications.

I will now shortly outline a few practical hints for the use of those who contemplate a journey to these out-of-the-way parts.

Routes.—It is a curious fact that the length of time occupied in travelling from London to New Zealand is no shorter than it was 40 years ago; it still takes about 4 to 5 weeks by the

quickest routes and from 5 to 7 weeks via Suez and Australia, Panama, or the Horn.

The routes have each their special attractions. For a climber who can spare the time, it would be useful to include Canada in the itinerary either one way or other, so as to put in some work in the Rockies. But, where time is essential, the Panama Canal is not only the best and cheapest, but is most interesting and comfortable. It saves the trouble of transshipment and wayside delays of the Suez route, and the excessive cost of any of the overland routes via America.

The Best Season.—My personal experience makes me strongly advise members to try to arrange their plans so as to begin their climbing after the New Zealand midsummer—that is, towards the middle of January at the earliest. Earlier in the season the weather is very unsettled, and much waste of time is bound to be incurred. Indeed, the best months are really February, March, and April, during which one may be fairly sure of settled weather and good snow conditions.

Outfit.—This entirely depends on the district in which you intend to work. If the Hermitage is made the headquarters, practically no camping equipment is necessary. There are now several huts so placed that every peak in the central portion of the Alps can be ascended from a hut base.

Mumm, who has just returned from New Zealand after spending a few weeks at the Hermitage, will no doubt be able to give advice from the visitor's point of view.

Should, however, an expedition be contemplated in the less visited districts (see below), a full camping equipment must be carried. Bring with you such things as self-cookers, light tent and fly and sleeping-bags, and possibly concentrated foods, otherwise all supplies can be arranged locally. Bear in mind that in such out-of-the-way districts everything must be carried on your back. Chapter XIII. of Mr. Turner's 'Conquest of the N.Z. Alps' gives very useful hints.

Transport.—Railways and motors have so revolutionised travel that the journey to the Hermitage is quick and comfortable, and even in the less-frequented localities on the E. side motor transport will get you and your equipment to a suitable base camp. In the old days our main efforts were often expended in establishing a base. That is now a thing of the past on the E. side of the Alps. On the W. side access is far easier, but there are still districts on the W. and further S. where conditions are practically the same as thirty years ago.

Where to Climb.—I recently secured from our Surveyor-General a complete set of maps on 'inch-to-the-mile' scale. These are in the Club library. On them I have written comments which will be worth referring to. In addition to this you will find in 'A.J.,' xxxiv. 295, further useful information which will help anyone to decide where to go.

As a general indication, let me say that if the object is to climb first-class peaks only, regardless of first ascents or exploration, the best and only centre is the Hermitage. Miss du Faur's book, 'Conquest of the Southern Alps,' is perhaps the best actual climbing book that has appeared in recent years, and gives an excellent idea of the conditions at present obtaining. Mannering, Malcolm Ross, and I tell of much more primitive conditions in our books, and these are out of date for the Hermitage.

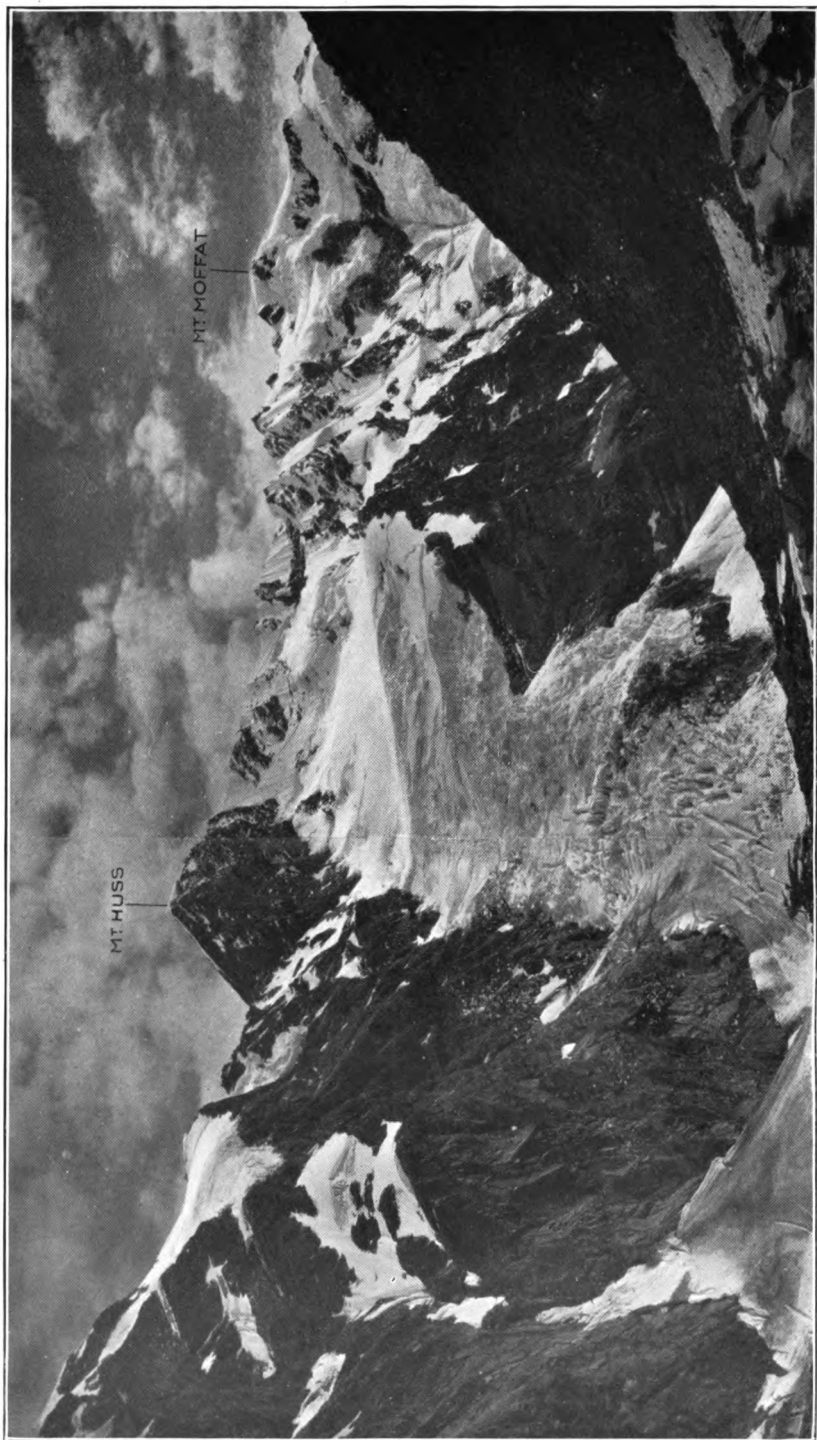
If you want exploratory work in new country and good first ascents, the Headwaters of Rakaia River and its corresponding W. coast regions, the ranges bounding the Landsborough River will give you good work off the beaten track. Perhaps the best of all of the less known districts is that between the Haast Pass and Mt. Aspiring (see 'N.Z.A.J.,' iii. 86). There is a lot of good work to be done here. Finally, the district round Mt. Tutoko behind Milford Sound has some fine climbing (see Malcolm Ross's book and the more recent one by Mr. Samuel Turner, 'The Conquest of the N.Z. Alps.' South of Tutoko is much rugged and unexplored country, mostly below the snow line.

Reference to Chapter VIII. of my 'Pioneer Work' and to the 'N.Z.A.J.,' ii. 20, will give a good general idea of the best way to deal with the conditions obtaining on the W. coast.

Guides.—These can generally be got in New Zealand—thoroughly competent men. But my advice to those who contemplate exploration is to do their own guiding and only engage the services of a good practical man familiar with the general conditions.

Deer-stalking.—In some districts, such as the Headwaters of the Rakaia River and the whole Landsborough Valley, first-class deer-stalking is obtainable, and a party might quite usefully combine this with actual peak-climbing.

General Information.—I am sorry to have to say that we cannot recommend anyone to go to the Government Tourist Department. It may be useful in some ways, but is not at this date competent to advise travellers, especially on climbing expeditions. No one on its staff seems to know 'what's what,'



PANORAMA OF THE CLASSEN VALLEY.
From lateral moraine of Classen Glacier.

Photo T. A. Fletcher.

nor do they appear to have copies of the most up-to-date maps for reference.

I therefore urge members who are coming out to communicate with me or the Secretary of the N.Z.A.C. We shall be only too glad to advise, and we might be able to help to make up a party if so desired.

This is not an offer made for mere courtesy, but is intended to be acted upon.

IN THE GODLEY VALLEY, NEW ZEALAND.¹

BY T. A. FLETCHER, HON. SEC., N.Z.A.C.

WHAT is commonly known as the Godley District lies at the head of the river that feeds Lake Tekapo. It embraces two large main glaciers, the Classen and the Godley. The former, six miles in length, is separated from the Murchison in the Mount Cook District by the Liebig Range, and flows in a horse-shoe bend, its terminal face just meeting that of the Godley. The Godley Glacier is about nine miles in length, and flows roughly S.W. and then S. Its main tributaries are the Grey, the Maud, the Neish Plateau, and the Dennistoun Glaciers.

At the head of the Classen is Mount Mannering, named after an old and enthusiastic pioneer in the Southern Alps, and this peak has been climbed by H. O. Frind and Conrad Kain. Then, taking the peaks on the Divide in their order, we come to the dome-shaped Huss, and then to the two highest peaks on the Divide in the district, the snow-capped Moffatt and the twin peaks of Livingstone. The Classen here turns, for a spur comes off between the last two peaks, separating it from the Godley.

The Valley of the Classen is a very beautiful one. In its upper reaches it is not more than half a mile wide, and great precipices rise almost sheer on either side. Over these cliffs magnificent avalanches are continually falling, filling the valley with their rumblings. There are few tributary glaciers of any great size, most of them being steep and broken. The peaks

¹ Reference must be made to Mr. G. E. Mannering's paper, *A.J.* xxiv. 67 *seq.*, with many illustrations and a map. The relative position of the Godley glacier is indicated on the map in *A.J.* xxix.

stand up majestically, sharp and clear against the skyline. So far nobody has set foot on the Divide between Mannerling and Moffatt, but we hope to make an attempt on it next year. There are not likely to be passes of any practical value across to the West Coast from the Classen. From the top of Mannerling there is a splendid icefall which is the source of the Classen, and another glacier, much less broken, comes down from the Classen Saddle, which leads into the Murchison District. These two streams of ice unite to form the Classen.

It has been my good fortune to spend a couple of days on the Classen, but conditions were very different on each occasion. On the first, three years ago, we plodded along in the teeth of a bitterly cold nor'-west gale, in order to meet our guide, who was coming over from the Malte Brun hut on the Tasman Glacier. We met in a snowstorm at the foot of the Classen Saddle and turned for camp at once. Not a peak could be seen, as all were shrouded in mist and rain. This year we spent a beautiful day in the Classen searching closely for routes up the peaks, but as we were at the end of our leave we could do no actual climbing. But it was a glorious sight, and our regrets were very keen when we had to leave it behind for another year.

Between Mounts Moffatt and Livingstone a short spur comes off the Divide. On one side is the Classen, on the other is the Grey, a tributary of the Godley, while at its end the Godley flows slowly by. At the end of this spur is a little dome which Messrs. Williams, Kennedy, and myself climbed four years ago, on our first visit to the district. We named it Panorama Peak, for it is the finest viewpoint in the district, commanding a view of all the main glaciers. On the northern side of this spur, facing the Grey, are some magnificent cliffs, about 3000 ft. in height, down which some huge avalanches may be seen falling, and they form one of the most prominent features of this portion of the Southern Alps.

The largest tributary of the Godley is the Grey Glacier, which flows into the main ice-stream about two miles from the terminal face. It has a very beautiful icefall about half way along its course, just where it makes a right-angled bend. From its upper reaches Mount Loughnan, with its four-pointed crest, and Mount Frances may be attempted, but so far we have not tackled these two peaks.

Just to the N. of Mount Frances another spur leaves the Divide, separating the Grey Glacier from the Maud. On this spur are two peaks, Mounts Fletcher and Gordon. The lower

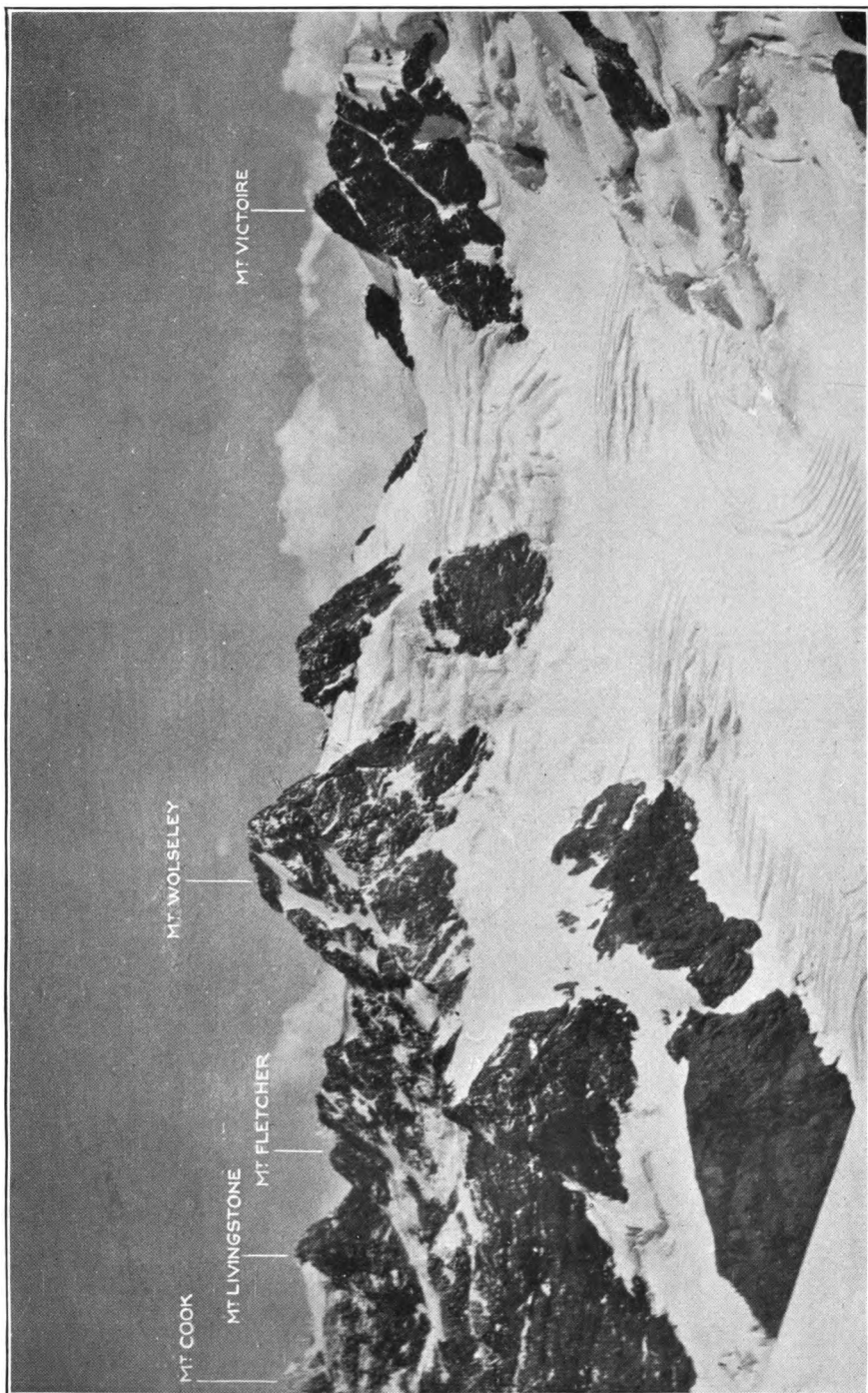


Photo T. A. Fletcher.

FROM NEAR SUMMIT OF MT. PETERMANN.



Photo T. A. Fletcher.

Godley Glacier.

FROM SUMMIT OF MT. PETERMANN.

peak of the former was climbed and named in my honour by Messrs. Kennedy and Lipp three years ago, while I was making a trip down the valley to replace some stores we had lost through our camp being burnt out. Mount Gordon was climbed by Messrs. Williams, Kennedy, and myself four years ago. We had established a bivouac at its foot, and climbed the peak in order to make a reconnaissance.

On the other side of the Maud Glacier is a spur on which is Mount Wolseley. In the maps this peak will be found to be placed on the Divide, but we have now definitely proved this to be wrong. Wolseley is a very fine peak indeed, and provides what I should think will prove to be the finest rock-climb in our Alps. It was climbed by Messrs. Kennedy and Lipp last year.

The Maud Glacier is a very beautiful one. It is not wide, and some of the larger schruns give some trouble in crossing. We traversed its entire length four years ago in an attempt on Wolseley, but were misled by the map. As the peak we had taken to be Wolseley (and which proved to be so) was left behind us when we had reached the saddle, we made for the next peak on our right, got into a very difficult and dangerous place, and so arrived at the base of our peak too late to make an attempt. As a matter of fact, we were enveloped in fog for about three hours and had to make our way home very cautiously.

The Godley is a very typical Canterbury glacier. It is very heavily encumbered with moraine for more than two miles above the terminal face, thus providing a long, wearisome 'grind' for those who would explore the beauties of the peaks higher up. The slope is fairly gentle, and crevasses, though numerous enough, are not really troublesome. It drains the whole of the eastern side of the Main Divide from Mount Livingstone to McClure.

About three miles from the head is a low pass (5800 ft.) leading over to the West Coast. At the beginning of the year we crossed this pass, endeavouring to push through to the West Coast. We descended about 2000 ft. by the Joyce Glacier, which flows down a narrow winding valley. It ends abruptly in an ice-wall at least 200 ft. high, down which an accident occurred about thirty years ago, when Mr. Lean slipped and fell to the bottom, breaking some ribs and bruising himself very severely. We crossed this ice a little above the face and descended on the avalanche snow, which fills the valley for about another half-mile. This snow evidently falls down

in enormous quantities in the spring, and a journey down this valley early in the season would be a rather dangerous one.

From this glacier runs the Scone Stream, one of the roughest of rough creeks. It was not till we had had actual experience of these streams in their virgin state that we were able to appreciate fully the work of Messrs. C. E. Douglas and A. P. Harper in the early 'nineties. Although the description of these valleys in 'Pioneer Work in the New Zealand Alps' is very fine, we were all convinced that it fell far short of actual reality, which was beyond the power of words to describe. The valley is very steep, but wonderfully grand. Its floor is strewn with giant boulders in great profusion and confusion, and at times a pathway down the river-bed becomes an impossibility. We had then to take to the mountain sides, and force our way through the dense sub-alpine scrub, which was ten times harder work than the river-bed. Finally, after taking nearly all day to do about three and a half miles, we were stopped by a great bluff about 4000 ft. in height, at the foot of which the torrent raced both deep and strong. To cross the river was impossible, though perhaps later in the season it might prove fordable, and so we were reluctantly compelled to retrace our steps.

Just N. of this pass is Mount Petermann, one of the prettiest peaks of the district. Standing between two low saddles, up which the fog travels, it is often bathed in cloud or mist, and provides many glorious opportunities for the camera man. We climbed it for the first time this year. It is not particularly high, but it gave us a very strenuous climb on a scorching hot day. Going up we kept to the rocks as much as possible, as the heat of the snow was unbearable, but we came down on the snow, which was lying so steep that we had to face it and go down hand over hand.

Further N. are the peaks of Malthus, Dennistoun, and McClure. The first two we climbed in January of last year, both of them being then unnamed peaks. Dennistoun, which, by the way, is a very 'rotten' peak, was named after the late J. R. Dennistoun, A.C., killed in the war, who had passed through the Godley on three occasions. Malthus, a lower peak, was named after our friend Rex Malthus, of Lilybank Station, to whom we have always been under a deep debt of gratitude for the assistance he has rendered us on all our expeditions. McClure, still unclimbed, is right at the head of the valley, at the spot where the Two Thumb Range branches off the main range.

On the Two Thumb Range, close to the Divide, is the Terra Nova Saddle, crossed and named by Dennistoun several years ago. Close by is the rock peak of Pyramus, also named by him, and then the range forks. D'Archiac, the highest peak in the district, is on the spur that flanks the southern side of the Godley Glacier, and was climbed by Dennistoun, Earl, and Clarke. Farther S. on this spur is Mount Forbes, and then comes Mount Sibbald, the second highest peak, 9161 ft. in height. Messrs. Williams and Kennedy climbed this peak in January 1918.

Except last year, our parties have always been very unfortunate with weather conditions, and thus our record has been very disappointing, to us at any rate. However, we have now thoroughly explored the whole district and examined and photographed the different peaks, so that we are ready to renew the battle. We know where to bivouac in order to be within easy access of them, and look forward with keen pleasure and anticipation to the coming season.

Without doubt it is a beautiful district, and we have been fortunate in finding a valley in which there are so many unclimbed peaks. It is unfortunate that my old companion, Mr. W. A. Kennedy, who organised the first three expeditions, is not able, owing to a strain, to continue, but I hope that next February will again find a party of us camped in the Godley Valley. Further details of the expeditions are given in the 'New Zealand Alpine Journal.' We have had some strenuous times and some great experiences, but we are rich in memories of many pleasant days spent under our canvas roof, or, better still, when roped together on the pure and spotless snows.

NOTE.—Mr. Fletcher's paper is accompanied by the Government 1-in. map, in which he has marked many new names, as well as by further photographs now in the Club Library.

SOME ASPECTS OF THE EVEREST PROBLEM.

By T. G. LONGSTAFF, M.D.

(*Medical Officer to the Expedition of 1922.*)

IN the following notes it is assumed that the reader is already familiar with the narratives of Mallory and Finch, which have been published in the *Alpine and Geographical Journals*. Nothing will be found here which does

not tally with these accounts, but the writer feels that certain points in the problem deserve greater stress than has, so far, been laid upon them. Nor is there here the faintest intention of any criticism, except in so far as the climbers have belittled their own achievements. On the Second Expedition to Mt. Everest I was, as far as climbing went, a mere spectator; but a spectator can write perhaps more freely than an actor. Actors suffer from modesty, while a spectator sees more of the game than any single player. For instance, a spectator like myself can best recognise a fact, which on my return I find had not been universally realised, that the climbers were well advised to lose no time in making the first attempt and in sending four men on it. Had not the two attempts been made when they were, the expedition would have returned with far less results, if indeed it had accomplished anything. As to the value of those results I would quote Dr. De Filippi, a critic whose judgment no one will challenge. He writes: 'I could never have hoped that you would have accomplished so much in one single year.'

Turning to details, dare I again repeat the opinion which I have expressed often before, that I do not believe in trying ascents in the Himalaya after the monsoon. This belief I formed when I first tested the problem seventeen years ago, and it has been strengthened by every subsequent visit. I do not believe that an autumn ascent is impossible, but I think the snow conditions at that season, especially on Mt. Everest, are likely to be too dangerous; and I agree with Farrar that 'do or die' principles do not accord with the ethics of the Alpine Club. A light monsoon ending unusually early in the season would obviously modify the normal autumn conditions very greatly to the advantage of the climbers.

As to the composition of the climbing party, almost every conceivable combination of numbers for the final ascent has its own special advantages. A party of one European with one or two Sherpas would have an excellent chance, and their entire transport and supply problem would be reduced to very simple proportions. With a very small party the intermediate Camps 1, 2, and 3 would not need to be continuously and simultaneously occupied by members of the expedition. Again, two Europeans would have a better chance of getting to the top than three. Practical considerations will probably limit an oxygen party to two. Four is a good number, especially for an attempt without oxygen and when more food can therefore be carried, because if one falls out another can be spared

to take him back to the last camp. A man must, of course, always retire before he breaks down. On the whole, it seems that either a very small party, or a party of about eight climbers plus four transport officers, is the ideal. To get the utmost out of the porters such linguists as the two Bruces, Morris, and Crawford are essential. Language difficulties were accountable for at least one case of lack of co-ordination at the high camps, which might have seriously affected the success of the expedition.

As to the climbers' age, while twenty-five to thirty is probably the ideal, yet individual variation is so great that each case will have to be taken on its merits. Owing to the War, the supply of young climbers is more limited than formerly. There is also the difficulty that experience of snow and ice conditions at different seasons and in several parts of the world is a desirable qualification. It is urgent that a sub-committee should get to work at once for the selection of next year's climbing party.

With regard to outfit, the expedition was greatly indebted to the labours of Farrar, Meade, and Unna. The outfitting was splendidly done. But a few suggestions may be put on record. For a large party involving continuously and simultaneously the occupation of four or more camps, more tents will be required, and very much more artificial fuel. Irrespective of the size of the party, each climber should have at least four eiderdown sleeping bags—one for each of the four highest camps; this simplifies transport and increases mobility. Clothing must include light wind-proof Arctic kit, which must be assumed *at once* in case of wind. Boots should be of thick felt with a nailed leather sole sewn on underneath. This problem should be taken in hand at once: it is vital. A sledge is necessary to take a sick man over the soft snow from the foot of the N. Col to half-way between Camps 3 and 2. Beyond this point the Norwegian back-carrier proved better than a stretcher. I believe that Eosine powder, to mark the track on snow, would have saved the first party much time, anxiety, and danger on their descent to the N. Col.

Enough stress has not been laid on the abnormal type of evaporation at these very high altitudes. Owing to the dryness, combined with the increased diathermancy of the air, evaporation is incredibly rapid. It is scarcely an exaggeration to say that above 25,000 ft. snow does not melt, but evaporates literally into thin air. Thus ice is rarely met with at great altitudes. We got our first good view of Mt. Everest from the

Pang La on April 28. The whole N. face of the mountain was then so completely free from snow and ice that it was long before I could be persuaded that this was indeed Everest. Such conditions obtain even at lower altitudes, and snow lies but a very short time on the Tibetan Uplands. We awoke at the Base Camp on June 4 to find four inches of snow on the ground: by 10 o'clock the ground was dusty. Glaciers have no streams worthy of the name (at any rate before the monsoon), because their surface ice evaporates directly into the air. Thus are produced those fantastic pinnacles and towers which characterise the northern glaciers. Somewhat similar conditions prevail on the N. side of the Karakoram; but there honeycombing of the surface is the more noticeable effect. This abnormal type of evaporation was the cause of the fatal avalanche. On the *shady* slopes at these great altitudes a layer of new snow does not melt downwards in the ordinary way and freeze on to the layer beneath; rather it evaporates upwards and tends to form a homogeneous brittle layer, which, like a thick crust, may break off as a separate unit. Strutt tells me that somewhat similar conditions occur amongst the Alps in winter. I venture to add my personal conviction that though snow and ice conditions vary the world over in far greater degree than do rock conditions, yet in the different parts of the Himalaya alone these variations exceed those found in all the rest of the world put together.

The loss of body fluids by evaporation is, in my belief, a grave element in mountain sickness. Thirst is a terrible trial at great altitudes, and I think had much to do with Morshead's breakdown. The obtaining of the necessary minimum of drinking water is as difficult as any problem we have to face. Some type of Arctic snow-melter is an absolute necessity. The solid spirit we were provided with is the most convenient form of fuel: there may be technical objections to its use at the highest camps, but if so these could be resolved by experiment in the pneumatic chamber. I believe it could be used safely inside a tent, thus eliminating the danger of frost-bite to the cook. It is easier and better in every way to utilise ice rather than snow, but it is unlikely that ice will be obtainable at the high camps.

In reviewing the evidence as to the value of oxygen, I will endeavour to confine myself to the facts and to refrain from theory. But nothing is harder than to arrive at the true facts of any problem—except, perhaps, to state them

impartially. In dealing with the mere figures, the rate of ascent and descent per hour, every mountaineer knows that no two ascents can ever be exactly comparable. In the present case the figures must be read in strict relation to the accounts of Mallory and Finch already published. Any mountaineer having read these will appreciate that the figures for the two final attempts are not fully comparable one with the other, because the Second Party traversed a much greater horizontal distance than the First Party. Again, the descents from Camp 5 to the N. Col are even less comparable, since the First Party were here burdened with a sick companion. The times of Strutt's Party of May 17 have, therefore, been utilised for the descent of the N. Col without oxygen. The point reached by the First Party proves by theodolite to be 26,985 ft., but the writer's mathematical limitations make a round number preferable.

Ascending.	First Party.		Second Party.	
	Without Oxygen.		With Oxygen.	
	Hours.	Feet per Hour.	Hours.	Feet per Hour.
21,000-23,000	4	500	3	666
23,000-25,000	4½	444	3½ (to 25,500)	666
25,000-27,000	6½	320	5½ (to 27,250)	318*
Descending.				
27,000-25,000	1½	1,333	2½ (to 25,500)	700*
25,000-23,000	7½	—	1½	1,666
23,000-21,000	1½	1,200	¾	3,000

* These rates are not comparable because of the much greater horizontal distance traversed.

The remaining evidence is more circumstantial, and therefore more difficult to weigh. The First Party turned back only because of the lateness of the hour. When they got down to the Base Camp they all agreed that they had not reached their limit, and professed that they could have gone to the top, so far as their physical sensations indicated.

The Second Party turned back at noon. I regret that Finch's modesty has not permitted him to be more explicit as to the incident that probably decided their retreat. When the accident to Geoffrey Bruce's oxygen apparatus occurred, he was on a rather steep slab. He struggled on, his strength failing under the onset of unconsciousness. Before he could fall, Finch dragged him up the slab and Geoffrey Bruce collapsed beside him. It is bare justice to record the opinion I formed, at the time and on the spot, that Geoffrey's life was only saved by Finch's forethought in providing himself with a Y piece and spare tube so that both could breathe from one apparatus, and by Finch's skill in making the repairs. On the other hand, it is clear from the Second Party's intermittent use of oxygen at night that physiologists have over-rated the danger of cutting off the supply, at least when at rest. To sit down at once, in the case of a similar accident while climbing, may be a sufficient remedy. But those using the apparatus should be trained and skilled in its use. In further palliation of this risk, it is to be noted that Tejbir, who broke down at 26,000 ft. when using oxygen (and carrying 50 lbs.), descended alone (probably using oxygen) to Camp 5, and after a rest there (probably without oxygen) was able to descend to Camp 4 the same evening. Finch and Geoffrey Bruce deserve our unstinted admiration for performing an experiment which they had been warned, even by members of the committee, might be of grave danger to themselves. It is no reflection on them to assume that it was this accident, so ably met, that actually decided a retreat in this instance. For it is noteworthy that, despite the gruelling they had endured at Camp 5 and their famished condition, they accomplished the long descent to Camp 3—over 6,000 ft.—the same afternoon.

At this point a digression may be permitted. The circumstances in which this great climb was accomplished must always be borne in mind. The climbers had spent twenty-four hours in a furious gale, sheltered only by a frail tent, at 25,500 ft. Their anxiety must have been intense and exhausting. Unfortunately they had only taken up food for one day. Communications were open on the second day between their bivouac and Camp 4. The porters who visited the climbing party on the second afternoon brought up an inadequate supply of provisions. It was in a famished condition that the climbers started on their attempt the following morning. The success they achieved cannot but be of

the greatest encouragement to future climbers, who may reasonably hope to make their attempt under less unfavourable conditions. In this connection it is desirable also to emphasise the circumstances of the First Party. Both parties were compelled by the onset of bad weather to bivouac at a lower point than they had intended. Both parties had to get their coolies back to Camp 4 before the weather got really bad. It was the intention of both parties to camp at 26,000 ft. (Finch in his narrative notes a possible bivouac site at about this height.) It was on this day, the day before the final attempt, that the First Party were frost-bitten. Furthermore, the following morning bad weather delayed their start, and consideration for a sick companion left in camp demanded an early return. Under such adverse circumstances both parties had legitimate reasons for retreating from Camp 5 and postponing their respective attempts. Yet they went on. Their success under the circumstances was magnificent, and gives sure hope of ultimate success to more fortunate climbers.

With the exception of Somervell, the First Party arrived at the Base Camp absolutely played out. They had expended their utmost endurance on their tremendous effort. Morshead's hands and feet were in a very serious state from frost-bite. Somervell, who had had much experience of such conditions during the War, considered that amputation would be necessary, but warned me not to operate except under certain circumstances. He and Wakefield agreed with me that Morshead must be taken back to normal levels as soon as possible. I wrote a formal medical report to General Bruce to this effect. I also examined the other three, and reported that Mallory and Norton were unfit for further attempts. Their frost-bites alone were reason enough to invalid them, because a recurrent exposure would probably have led to the loss of hands or feet. Norton had undergone a great additional strain in helping Morshead down. Mallory's responsibility must have been exhausting: that he supported his companions' dangerous slip shows that he was equal to the strain, but he must have drawn heavily on his reserves of energy. It is difficult to estimate the effect of such mental strain on the physical condition when the margin is already reduced to such narrow limits. Somervell appears to be physically incapable of exhibiting the symptoms appropriate to his physiological environment; he showed no signs of exhaustion, except a few superficial frost-bites on his fingers. I considered him to be the only

one of the six high climbers who remained fit for a second attempt. Nevertheless, it is suggestive of the value of oxygen that the worst cases of frost-bite occurred in the First Party. The Second Party report that they were greatly benefited by taking small quantities of oxygen during their second night at 25,500 ft. ; considering their lack of fuel and food, I do not doubt that they would have been badly frost-bitten without this aid.

Against oxygen it must be recorded that on and after their arrival at the Base Camp, though both parties had played themselves out, the general physical condition of the Second Party was distinctly worse than that of the First Party. By using oxygen, the Second Party put their engines under 'forced draught' ; they were enabled to take more out of themselves ; because of it they desired more food. Judicially, there is no evidence that the Second Party would have been more or less exhausted than the First Party if neither had used oxygen. There is obviously no proof that the Second Party could ever have attained 27,000 ft. without its use. But if it were a fact that they could not, then we have the strongest argument that can be advanced in favour of oxygen : that its use will enable a man to ascend Everest who is physiologically not capable of succeeding without such assistance.

I reported in writing to Bruce that, in my opinion, neither Geoffrey Bruce nor Finch were fit for another attempt. I did not want my companions to run the possibility of a risk of their courage being challenged by anyone incapable of realising the true position. The climbers, however, exhibited no gratitude. Luckily, neither Morshead, Norton, nor Geoffrey Bruce could walk, so they were in my power. But Mallory and Finch persisted in joining Somervell in the last attempt, with Wakefield and Crawford in support, and Morris in charge of the lines of communication, transport, and supply. Finch, however, was compelled by physical weakness to turn back after he had reached Camp 1. The margin of safety was vanishing.

Norton and Geoffrey Bruce were packed off on ponies to Kharta, as from their general condition it seemed probable that they would be restored to health in that comparatively genial region, a Capua so long desired by all of us. But Morshead was suffering acutely, and went steadily downhill ; constant pain kept him awake night after night, and opiates had no effect on him. Strutt, who had spent nearly a fortnight at 21,000 ft. and over, was showing increasing

deterioration, with marked loss of weight. Finch's condition was serious. Impaired constitutions are incapable of contending against the bad effects of prolonged residence at high altitudes, and it was necessary to get these men down quickly if permanent damage was to be avoided. Accordingly, we four left Rombuk on June 6, and reached Darjiling in nineteen days, having covered 820 miles without a hitch, thanks to the excellent work of Gyaljen and the assistance of Tibetan officials. The rapidity of our retreat, which excited some surprise and comment at home, undoubtedly saved Morshead's hands and feet. Morshead bore his sufferings with his usual fortitude. Thanks to the following of Somervell's advice, he made a wonderful recovery; but his right hand is permanently maimed by the loss of the first three fingers.

Frost-bite being literally due to deprivation of oxygen owing to the cessation of blood circulation, the deficiency of oxygen in the air breathed at high altitudes produces a very 'vicious circle,' which retarded recovery even at the Base Camp. Very great credit is due to the climbers for asking to be given another chance. It is very well known that high altitudes have a most depressing effect on morale; this is freely acknowledged by the Air Force; such a request, therefore, indicates an extreme degree of mental resolution on the part of the climbers. But it was my duty to give a flat refusal in cases where I believed that perseverance would produce permanent serious injury—or worse. Nobody capable of comprehending what these men had gone through will venture to criticise such a decision.

Noel's experience provides one of the most valuable and hopeful pieces of physiological evidence obtained during the whole expedition. In his case very good acclimatisation occurred during his four days' residence at Camp 4 (23,000 ft.). Many physiologists, including the writer, did not believe that any really beneficial degree of acclimatisation could occur at such an altitude. But with Noel the improvement was undeniable; cinema work at such an altitude is a good 'control test.' At this point I would emphasise the fact that the whole question of the use of oxygen is far more complicated than is generally assumed. Thus the taking of oxygen continuously at very high altitudes must inevitably prevent anything approaching to complete physiological 'acclimatisation' from taking place. Furthermore, a climber who has been continuously using large doses of oxygen on the mountain must, when he descends to the lower camps and ceases to

use it, find himself worse off for oxygen than he was before, because there is still only half an atmosphere at these camps. But if he had *not* used oxygen on the mountain, he would be getting into a richer oxygen supply with every foot that he descended, and when he got down to the Base Camp he would obtain considerable relief from the relatively increased percentage of oxygen there.

Enough of theory : to return to our facts. About a dozen Sherpas spent more than a week at over 23,000 ft. At least half of these made three or four journeys to 25,000 ft. and over, twice carrying loads up to 40 lbs. in weight—all this without oxygen. Statistics of their rates of progress would have been very valuable. They had no cases of frost-bite, seeming to be quite unaffected either by very hard work or very low temperatures, or long residence at very high altitudes. Their youth and the way in which they seized on the sporting aspect of the struggle were their most remarkable characteristics. I had urged that a fresh set of porters should be used for each attempt ; but the first set refused to budge. They refused to share their glory with the others ; it gave them a pull with the ladies ! There appears no reason why some of these lady-killers should not be capable of conquering even Everest without oxygen, and of carrying loads even to 27,000 ft. The organisation and equipment of this corps is General Bruce's outstanding contribution to the Everest problem. The success we achieved this year is really due to his consummate knowledge of the peoples of the Himalaya. I believe we are all agreed that they were better than Alpine professionals for this job.

After what has been said and written, I cannot too categorically state that physiologists (of whom I am one) are agreed that oxygen must be of the greatest value on Mt. Everest ; but its use as a platform missile is to be deprecated. Given enough oxygen, the upward limit for humanity is not reached until above 40,000 ft., where the boiling-point of water falls to 99° F. At this point the climbers themselves will naturally begin to boil too. If liquid oxygen could be utilised a climber could easily carry twenty-four hours' supply and the whole problem would be enormously simplified. But of gaseous oxygen you cannot carry half this amount, and so to make full use of it oxygen must be relayed—and Everest does not take kindly to dumping. I confess that I never believed that anyone could carry our apparatus as high as climbers could get without it. I admit that Messrs. Siebe, Gorman and the Oxygen Committee fairly

scored off me. Still it is inevitably carried at the expense of fuel and food. With great diffidence, as a constructive policy, I advocate that oxygen be taken, but used only as a last resort, and in small quantities. The amount required by different individuals will be found to vary to an unexpected degree, but the less one can do with the better, for the less will its cessation be felt. For getting an exhausted man down it should be invaluable, for here speed is safety. It is a specific for preventing or arresting frost-bite. A liquid oxygen plant at the foot of Mt. Everest may be a possible solution of the problem of weight and relays. For myself, I would like to have oxygen dumped on the top of Everest—and to use it coming down.

What deductions can we legitimately draw from this year's experience? Obviously Bruce has solved the vital matter of porters, without which no advance was possible. As to the possibility of the ascent, since without oxygen 27,000 ft. has been attained, and since only a further $\frac{1}{8}$ of an inch of pressure remains to be relinquished, surely we can agree that it is quite possible to get to the top. Probably some exceptional individuals will succeed without recourse to oxygen, though even such fortunate mortals would accomplish the feat more easily with oxygen. But I venture to protest that Mt. Everest is not an easy mountain—it is pedantic so to miscall it, and not fair to those who will one day reach its summit. The route is straightforward enough—up the ridge from the N. Col. to near the N.E. shoulder, below which point I am convinced that I spotted a good camping-place at a little over 27,000 ft. The chief difficulty seems to be the lack of a good coolie camp site between this and the North Col. Along the N. shoulder it may be possible to get a little shelter by clinging to the N. side of the final ridge. On a windless day the snow ridge itself is probably easiest. The last steep slope may be easier on the S. side—if the snow is safe there. But ultimate success depends entirely on the weather, for no mortal man can face a storm on the final ridge of Everest.

To sum up: it does not appear to have been quite realised that the chances of both parties were irretrievably ruined on the day previous to the final assaults by weather conditions which compelled each of them to camp much lower down than they had intended. For neither of these emergency bivouacs could good sites be found, and both parties suffered directly from this cause. The First Party were all frost-bitten on the day before their attempt. The Second Party were most severely handicapped through being storm-bound at Camp 5. How

excellent it is that both persevered in spite of everything. It is not possible to overrate the hardships which these pioneers endured ; nor to overstate the satisfaction of the writer in having been present, though the part of a mere spectator has its inevitable regrets.

I gratefully thank several friends, both Alpine and Himalayan, for their assistance in the compilation of these rambling notes. I cannot close without some brief acknowledgment of our debt to the labours of the First Expedition, and in particular to Wheeler's admirable survey, accomplished as it was under conditions of such extreme difficulty and continuous hardship.

EQUIPMENT FOR HIGH ALTITUDE MOUNTAINEERING, WITH
SPECIAL REFERENCE TO CLIMBING MT. EVEREST.

By G. INGLE FINCH.

(*Read before the Royal Geographical Society, November 20, 1922,
and reprinted, by permission, from the 'Geographical Journal,'
vol. lxi. no. 3.*)

IN climbing Mt. Everest, high altitude may be said to begin at 22,000 ft. when the North Col is approached from the east. Although there is no sharp line of demarcation between what constitutes low and high altitudes, I select the above figure for the following reasons : Firstly, all the strongest and most physically fit members of the Expedition are of the opinion that at 21,000 ft. (Camp No. 3) one's physical functions are practically unimpaired, and good sleep and recuperation from fatigue are possible ; but at 23,000 ft. (North Col), owing to the altitude, one's physical functions are impaired ; sleep becomes fitful, in some individuals the appetite falls off, and there is a general loss of physical fitness. The conclusion may therefore be drawn that in the case of the most favoured individuals acclimatization to altitude ceases between 21,000 and 23,000 ft. Secondly, up to a height of 22,000 ft., snow and ice conditions approximate very closely to summer conditions in the Alps ; above 22,000 ft., however, the state of the snow resembles that met with in mid-winter in the Alps. This high-altitude zone may be further divided into two sub-zones—the first from 22,000 ft. (foot of the steep snow and

ice slopes leading up to the North Col) to 23,000 ft., and the second from 23,000 ft. onwards. The first zone is protected by the North Col from the prevailing westerly wind, whereas the second is fully exposed.

Equipment for First Zone.—Oxygen should be used from the foot of the North Col slopes onwards. No useful purpose is served by tiring oneself through not using oxygen, when, as we have seen, full recovery from fatigue is no longer possible at 23,000 ft.

Clothing somewhat warmer than that used in the Alps in summer is quite sufficient. A solar topee is advisable as protection against the sun, and Crookes' glasses of smoke-blue colour afford complete protection from glare without causing eyestrain and subsequent headache. It is also advisable to wear a veil or similar protection, and not to expose the hands to the rays of the sun. Sunburn is invariably followed by a condition of feverishness which cannot but impair one's fitness.

Equipment for Second Zone.—Above 23,000 ft. conditions change radically. The wind is almost invariably blowing and the cold is intense. The degree of intensity of the latter is comparable with that met with at the Poles, and, indeed, probably often exceeds it. Also, owing to the rarefied state of the atmosphere, cold is much more severe in its effects than would be the case at sea-level. A far greater volume of air is expelled from the lungs, and the air is saturated with moisture at blood heat and under a low pressure. A proportionately more rapid loss of animal heat is the result. The partial pressure of oxygen is so low that, unless the climber has recourse to a supply of oxygen carried by himself, his climbing efficiency is enormously lessened. It follows that the climbing equipment of the mountaineer in this second high-altitude zone should include (1) a supply of oxygen, and (2) warm and wind-proof clothing and foot gear. (3) The use of oxygen increases the appetite, and due provision must be made for a sufficiency of suitable food and drink.

Oxygen Equipment.—The oxygen equipment should consist of an improved form of the apparatus, using cylinders of compressed oxygen, described by Mr. P. J. H. Unna in the *ALPINE JOURNAL*. Numerous other methods of supplying oxygen have been suggested, but these all fail in one or more respects.

In the Leonard Hill bag oxygen is generated from sodium peroxide and water. Already at an altitude as low as 16,500 ft. there is thrown up into the oxygen developed a fine spray (probably caustic soda solution) which settles so slowly that,

even after standing for two hours, the oxygen is still unfit to be breathed. In addition, water is required for developing the oxygen, and at high altitudes water is almost too precious a commodity to be used for this purpose.

Mr. Harkness advocates the use of oil of garlic. He found from practical experience in the Andes (at an altitude of 16,000 ft.) that the smelling of oil of garlic dispelled his symptoms of mountain sickness. He offered as explanation that oil of garlic contains much oxygen and emits this oxygen freely. Oil of garlic certainly does not do this, but it may possibly act in another way by stimulating normal involuntary breathing.

The Administration of Oxygen by Subcutaneous Injections.—I shall refrain from discussing the possible value of oxygen administered in this manner, but will content myself with merely pointing out what seem to me to be weaknesses in the proposed method of administration. Presumably such subcutaneous injections would be employed only at high altitudes, say, 25,000 ft. or more, in the hope of thus dispensing with the heavy and bulky oxygen apparatus. At such altitudes, however, the climber must concentrate all his powers of resolution upon one object, namely, the getting to the top of Mt. Everest. I think that the pushing of a needle into his skin and injecting a large volume of oxygen—it must be large to be of any use—would irritate him to such an extent as to divert his mind from the main object. Furthermore, unless the man who operates upon himself is possessed of a certain amount of skill and is mentally still sufficiently alert in spite of the high altitude, he will run the risk of doing himself an injury. The method of administration also leads one to suppose that the needle should be left in position. Owing to the intensity of the cold, this would result in the formation of a considerable area of frost-bite all round the heat-conducting needle. Again, I believe it is suggested that the injection be made in the thigh; with the needle in position and passing through or covered by clothes, laceration of the muscles while climbing would be almost inevitable. I do not know whether it would be possible for an extremely clumsy man to push the needle into a major vein. Should this occur, the results of injecting oxygen would be disastrous. There is one other point. I am not sure that we ought to ask even a climber to insert a needle into his skin when, in order to do so, he must, owing to the cold, push the needle through clothes that are bound to be septic and dirty, and so run the grave danger of infection.

With reference to the injection of oxygen under the skin, however, I would like to suggest that physiologists consider the advantage of occasionally flushing out the stale air surrounding the body by allowing a few litres of oxygen to flow from the apparatus into rubber tubes leading down inside the clothing, say, to as far as the knees.

Another suggestion was to take potassium chlorate. The oxygen of potassium chlorate is chemically very stable, and it is not absorbed by the blood, and for all the oxygen you would obtain by this means you might just as well take sodium chloride.

Recently the proposal was made to me very earnestly indeed that hydrogen peroxide could be used. The method has this in its favour at first glance: the ratio of the oxygen to the total weight of the hydrogen peroxide is a very favourable one (about 16 to 84)—far more favourable than in our oxygen apparatus, which weighs about 35 lbs. to about 3.3 lbs. of oxygen actually available. The unfortunate thing about hydrogen peroxide, however, is that—although I believe it has been prepared pure—it is by reason of its products of decomposition a highly endothermic compound, and as such extremely dangerous and liable to explode. Further, the rate at which the oxygen would be given off by a commercial hydrogen peroxide, although controllable in the laboratory, would not be so on the slopes of Mt. Everest.

The Effects of Tobacco.—Captain Geoffrey Bruce, Lance-Corporal Tejbir, and I arrived at an altitude of 25,500 ft. and pitched camp about half-past two in the afternoon. From half-past two until seven o'clock the following evening (that is, for more than twenty-eight hours) we used no oxygen at all. Very fortunately, I had brought with me three packets containing in all thirty cigarettes. About half an hour after arriving in camp, I do not mind confessing that we felt a little bit miserable. We had been exposed to a considerable degree of cold and wind, and warmth once lost does not, at that height, return very quickly to one's members. I also noticed in a very marked fashion that unless I kept my mind on the question of breathing—that is, made of breathing a voluntary process instead of the involuntary process which it ordinarily is—I suffered from lack of air and a consequent feeling of suffocation. By forcing my lungs to work faster than they would have done of their own accord, I would recover and again become normal. There is a physiological explanation of this phenomenon. The partial pressure of carbon dioxide in the blood falls below

normal because it is washed out of the system owing to the enormous volume of air which one inhales in order to obtain a sufficient supply of oxygen. Carbon dioxide stimulates that nerve centre which controls one's involuntary breathing.

About 4 o'clock that afternoon I smoked a first cigarette, remembering how often in quite different situations the mere act of smoking had distracted the attention from unpleasant things. I was joined by Geoffrey Bruce and Tejbir, both of whom had been experiencing the annoying necessity of having to concentrate on breathing the whole time. After the first few deep inhalations of the smoke, this was no longer necessary, although at first we had to pant a little on account of the time during which the lighting of the cigarettes had interfered with our breathing. Evidently something in the cigarette-smoke acted as a nerve stimulant in the place of the carbon dioxide in which the blood was deficient and, making breathing once more an involuntary process, relieved us of the need for constantly keeping our minds fixed on the controlling of the lungs. The effect of a cigarette lasted for about three hours, so that by 5 o'clock the next afternoon our supply was consumed. At 7 o'clock, rather sorely craving a substitute, we had recourse to the oxygen apparatus. Instead of breathing the normal two litres per minute each, we contented ourselves with about half a litre between us. This amount not only sufficed to make us feel much more comfortable and less cold, but it also enabled us to obtain the first sleep which we had had at this great altitude.

It is not yet known what the stimulant contained in cigarette-smoke is. It is not likely to be carbon monoxide. I have carried out laboratory experiments, in which an intermittent current of air at a pressure of 380 mm. was drawn through a cigarette, lighted at the beginning of the experiment by means of an electrically heated platinum wire. The gases after washing through glass-wool moistened with dilute sulphuric acid were colorimetrically tested for presence of carbon monoxide on absorption through iodine pentoxide. The results were negative. Perhaps the stimulant is pyridine, which is present in comparatively large quantities in tobacco-smoke. Pyridine is frequently used in the laboratory for the extraction of certain constituents from coal, and it has been independently observed by several research workers that the slight traces of the pyridine in the air of the laboratory have, for the first few days, a distinct stimulating effect upon respiration.

Morphia is another stimulant which has been suggested.

I cannot speak with authority about morphia, but I should be very glad to have medical opinion as to the exact nature of its effects at high altitudes. It must always be borne in mind, however, that a man has no business to be at 23,000 ft. on the slopes of Mt. Everest unless he is feeling fit and practically immune at that height from the evil effects of high altitude.

Clothing.—I would recommend clothing on the following lines: One suit of thin silk underwear, followed by a suit of (1) light woollen underwear, (2) medium-weight woollen underwear, (3) heavy-weight woollen underwear, and a loosely fitting woollen sweater with trousers of the same material. In order to keep the abdomen completely unrestricted, nether garments should be supported by braces. Two-piece under garments are preferable to one-piece, as they provide a double protecting layer round the abdomen. Over all should be worn a suit of warm and windproof clothing consisting of (beginning from the inside) a layer of thin flannel followed by a layer of duopreened light canvas, green in colour, another layer of light flannel, and a layer of transparent oiled silk of yellow colour. The coat should be made in blouse form with a hood, fur collar round neck to act as a brake upon the efflux of air from between the clothing and the body, a narrow fur band round the abdomen for the same reason, and likewise fur bands round the inside of the cuffs. Suitable tapes should be provided at the neck, round the waist and round the wrists, by means of which these openings can be comfortably closed. The trousers, fashioned on the same lines, should reach to the ankles and be provided with tapes for binding at the ankles and just below the knees (to prevent dragging on and hence impeding the action of the knees). Trousers should be supported by braces.

Gloves.—I wore one pair of thin woollen finger gloves, one pair of lambskin gloves, and one pair of duopreened canvas gauntlets with a lining of flannel. My hands kept warm, and I was able comfortably to manipulate the oxygen apparatus.

Headgear.—The R.N.A.S. pattern helmet is the most suitable form of headgear, with a chin-piece covering the whole of the face up to the nose. Crookes' glasses, let into a mask lined with soft fur and large enough to cover the remaining exposed portion of the face, complete the headgear.

Footgear.—Leather is too good a heat-conductor, and reliance should not be placed upon it for warmth. The uppers of the boots should be of felt, strengthened where necessary to prevent

stretching by sewn-on leather straps. The felt should be covered by duopreened canvas. Toe and heel caps must be hard and strong; the former should be high. The sole should consist of thin leather, a layer of three-ply wood hinged in two sections at the instep, and a thin layer of felt. The boot should be large enough to accommodate in comfort two pairs of thick socks. As regards nailing, ten tricouni nails per boot would be sufficient. These should be fastened by screws passing through the leather sole and entering into, but not penetrating, the three-ply wood.

Short-length ankle putties will prevent ingress of snow into the boots. Climbing irons are unnecessary.

Food.—Altitude does not impair the appetite, at all events when oxygen is used. Food, together with the necessary fuel (Meta) for cooking, should be made up in 10-lb. parcels contained in three-ply wood cases and clearly marked 'for high altitudes only.' A light tin-opener, a box of matches (Swan wax vestas or equally reliable 'strike everywhere' brand), and a supply of cigarettes should be included in each parcel. The greatest care must be taken in the selection and making up of the contents of these parcels in this country; the best organizer is likely to be somewhat below par when at the North Col.

Cameras should be of the roll-film type.

Aneroids.—I would suggest considering the advantages of the Pallin barometer. It is a zero instrument and light and robust.

Thermometer.—This should be graduated below zero only, and should be lighter, smaller, and better protected against rough handling than those with which we were supplied in 1922.

Rope.—There are no crevasses above the North Col. A light sash line, say 6 mm. or at the most 8mm. diameter, is sufficient. Fifty feet should be allowed for two men.

Axes.—Light axes with long picks and short hafts are best. The axes should be soaked for a day or two at the base camp and then well rubbed with linseed or similar drying oil.

A discussion followed in which Professor J. B. Haldane, Mr. Freshfield, Dr. Longstaff, Major Stewart (Air Ministry), and Lord Edward Gleichen took part, and Captain Finch replied to questions and gave further information. A full report appears in the Royal Geographical Society's Journal mentioned.



Photo Ph. C. Visser.

TWO 23,000 FEET SUMMITS NEAR SASIR PASS.



Photo Ph. C. Visser.

**IN THE SASIR RANGE.
(With Lashi Glacier.)**

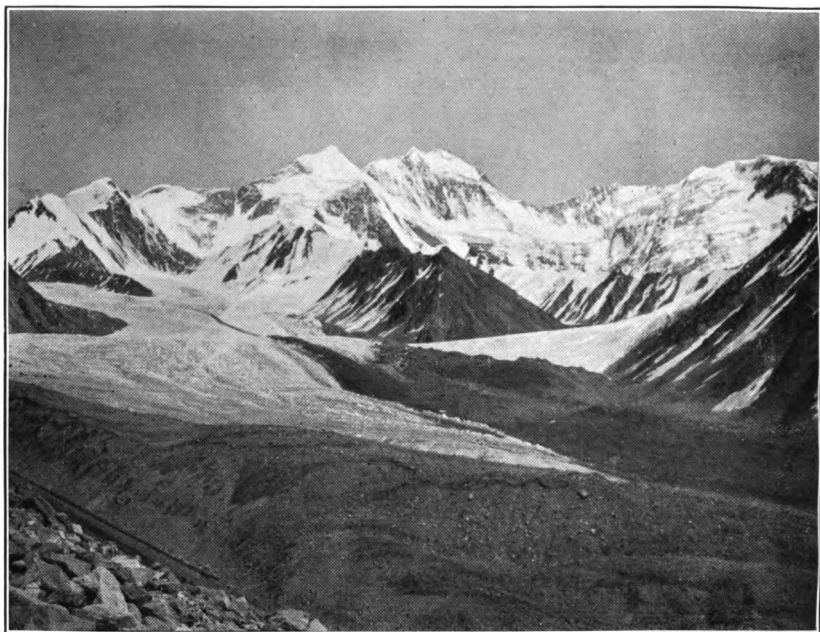


Photo Ph. C. Visser.

HIGHEST SUMMIT (ABOUT 25,170 FEET) IN SASIR RANGE.



Photo Ph. C. Visser.

A SUMMIT OF 25,000 FEET IN SASIR RANGE.

THE SASIR GROUP IN THE KARAKORAM.

By PH. C. VISSER.

(Read before the Alpine Club, April 10, 1923.)

LET me begin to-night with an excuse and an explanation! Never in my life did I realise that the English language contains so many pitfalls! They appear before my mind as symbols of the difficulties with which we had to struggle on our expedition to the Karakoram; they besiege me in overwhelming numbers and urge me, in the first place, to beseech you to excuse my unpardonable boldness in presuming to occupy this place at all. My audacity, however, must be explained by the fact that I appreciate in such a high degree the honour of speaking before this distinguished audience, although I very much doubt whether my experiences of last summer will be worth relating to a Club which counts among its members such famous explorers, climbers and pioneers of Himalayan and Karakoram mountaineering as Sir Martin Conway, Dr. Norman Collie, Dr. Longstaff, General Bruce, Mumm, Finch, Mallory and many others.

Also I hesitate to claim your attention, when not long ago you listened on this very spot to the accounts that General Bruce, Mallory and Finch gave you of their magnificent exploits on Mt. Everest.

Our destination was the Sasir Group in the Karakorum, a group of mountains S. of the Sasir Pass. As far as I know, Dr. Longstaff with Dr. Neve are the only Europeans who ever penetrated into this region, when they tried to reach the highest summit. We discovered the traces of their camp in the Popache Lungma.

The northern part of this group (N. of the Sasir Pass) was partly explored by Dr. de Filippi's party in 1914, and Mrs. Bullock-Workman also mentions it in her description of the region surrounding the Siachen Glacier.

We reached Leh, coming from Srinagar, on June 5. Via the Kardong Pass we continued through the valleys of the Shyok and Nubra, passing Panamik, and following the caravan-route to Yarkand over a steep and rocky pass in the direction of the Sasir Pass. Before reaching the latter, however, we left the main valley and entered the group of mountains in a southerly direction. Here we explored six

glaciers and three passes and, further, climbed six summits between $\pm 18,600$ and $\pm 20,100$ ft. The choice of the peaks climbed depended on their utility from a topographical point of view; and they were generally the highest summits in the different valleys.

On August 16 we returned by the same way to the Nubra, and camped a few days at Popache, in the neighbourhood of Panamik, before renewing our attempts to reach the summit of the central peak.

After waiting some days in a camp at 17,225 ft. during a snowstorm which lasted four days, a final effort brought us to a height of $\pm 20,000$ ft., where the climbing became so difficult that we were forced to turn back. In the latter region we were able, however, to explore four glaciers.

In the beginning of September we were back in Leh. A last expedition was our attempt to climb the highest peak of the chain to the S. of Leh, $\pm 20,000$ ft., but a very bad snowstorm drove us back from our highest camp at 18,500 ft.

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A formal introduction to the members of our expedition will not take much time, as our party only included my wife and myself, with the two Swiss guides, Franz Lochmatter and Johann Brantschen, both from St. Nicolas.

Franz is an old friend of many members of the A.C. Has he not scaled nearly every great peak in the Alps with various distinguished members of this Club?

And Johann Brantschen? He proved to be a first-rate climber and agreeable companion, very willing, calm and silent. Remarkably silent! Did, or did he not, speak a dozen words between Rotterdam and Bombay? Nothing ever seemed to rouse his surprise, though he had never been beyond his native mountains, and could only converse in the Swiss-German dialect. Amidst the strangest surroundings he serenely smoked his pipe, for all the world as if he were sitting on the guides' wall at Zermatt, resisting with the same stolidity and the same delightful air of detachment the dusky crowds of the plains, the clamouring Kashmiri merchants, the grinning lamas and the solicitous Englishmen, who with the best intentions pointed out the imminent danger of sunstroke if he persisted in wearing his native headgear instead of the inevitable topee.

Here is the place to sing the praises of both our trusty fellow-adventurers. They were always in good health and good

humour. Franz, wisely and patiently, supervised the commissariat and the coolies, Brantschen being his right hand. Often, after a strenuous day, the latter replenished the larder with a welcome addition of fresh meat.

As to our equipment : Two Whymper tents for my wife and myself and two Mummery tents for the guides and for use at the highest bivouacs sufficed for all our needs. The two Kashmiri servants had a tent to themselves and the coolies found shelter, when necessary, in some larger ones.

It is needless to enter into further details, as all I could say about mountaineering equipment is well known to you.

I will only add a few words about provisions.

It was necessary, owing to the lack of wood and to the low boiling-point, to rely mainly on tinned food. It is quite possible to cook rice and to prepare meat at this altitude, but the process takes a great deal longer and consequently we had to consider our precious hoard of fuel.

Our scanty supply of fuel consisted mainly of a kind of low shrub that had to be fetched from a distance of several marches, supplemented by dried cow- and horse-dung.

As a reserve we had a few tins of kerosene destined to feed our primus stoves. The latter, however, in spite of tender coaxing, proved to be most capricious and unreliable.

Rice, biscuits, and dried fruit were our favourite nourishment.

A few words will suffice to describe our scientific outfit.

According to my humble opinion, a traveller should not undertake a similar expedition merely from a sporting point of view. The journey makes too great demands on one's time and one's finances to find its sole justification in merely climbing a peak or shooting an ibex. The sportsman who penetrates into these unknown districts should not forget the valuable aid he can contribute to science.

I myself am not qualified to specialise in any of the different domains of science, but I made careful inquiries as to what observations I could make, how to make them, and what specimens it would be useful to collect.

I took some topographical instruments, which enabled me to make a map of the region, as well as aneroids and instruments for meteorological observations, such as barometer, thermometer, wet-bulb thermometer, anemometer, etc. These proved to be of great value. Our collections of geological and botanical specimens were continually being added to during our sojourn in the mountains.

My wife undertook the task of searching for and drying the various plants and flowers found on the Sasir Range up to $\pm 16,000$ and $17,000$ ft., and succeeded in getting together a valuable collection.

We also made observations on the movement of the glaciers. It was interesting to observe that these are in a period of growth.

Three cameras gave satisfactory photographic results.

The medicine-chest was an important item of our outfit. I must confess to utter ignorance in such matters. Even more so, as generally on our arrival at a camp in the neighbourhood of some village all the sick inhabitants were produced for our inspection.

One of the mission doctors at Leh had given me some sound advice on the subject :

‘Never display ignorance. You must always know all about everything. It does not matter what you give them, as long as you give them something.’

So remembering these exhortations, and, on the other hand, feeling decidedly on these occasions, for once, more like angels than fools, we promptly decided to take refuge in the ever-recurring administration of bread pills, a dose of three for serious patients, two for less serious cases, and one for all other occasions. Medicine composed of water and sugar was also used. I must confess that our bread pills and our sugar water proved most efficacious ! And I express my suspicion that real doctors have not always had such grateful patients as I had.

The difficulty in this uninhabited part of the world was to procure and to transport the necessary ‘ata.’ The Government of Kashmir most kindly helped us to solve this problem, and I gratefully remember that not only on this, but on every possible occasion, the said Government gave us their much appreciated assistance.

It is hardly necessary to add that one cause of this favourable state of things was to be traced to the kind efforts of the British Government to facilitate our journey in every way, from the moment when we first landed at Bombay until we were again homeward-bound on the steamer.

With pleasure and with gratitude my wife and I remember the kind hospitality which was displayed towards us by the Governor of Bombay and other persons of authority in British India, but I certainly also owe a debt of gratitude to General Bruce, who, himself besieged by numerous calls upon his time

on the eve of his departure for the Everest expedition, still found occasion to write to us and give us the most valuable hints before we started on our travels.

More than once during the months that followed, when we were wending our way across sandy wastes and snowy passes, our thoughts went out to him and his little band of gallant men struggling to conquer that most mighty of monarchs, Everest.

But—as the French say—to come back to our sheep, or in this case to our coolies, I cannot take leave of them without adding a few words about the men themselves, first speaking about that important subject—their food. I cannot repress a touch of envy when comparing them to the coolies of the Everest expedition. Still, they had some good qualities; they were cheerful and good-humoured as a rule, and also very honest. We never missed any of our belongings. They were like children, and if continually supervised did their work well, although they were very lazy. If left to themselves the result was disastrous. More than once it happened that we sent some of them back to fetch fuel from a depot we had made at a distance of five or six hours, and that they remained absent for more than thirty hours. If we sent another coolie to fetch them back, we could be certain that he would join the lost sheep.

Courage was not a strong point with these people of Ladakh. Several of them could only be persuaded with great difficulty to venture, loudly praying, on to a glacier. On difficult places they gave us great trouble.

They were most horribly dirty. I remember one of them who was so covered with filth that my wife would not permit him to carry anything except some wood or a box with old rubbish. His colleagues were very surprised at this, and commented upon it, shaking their heads.

I must not forget another characteristic of these quaint people which, however, one does not find only in Ladakh: they are crazy about 'backsheesh.' These Ladakhi were indifferent about the wages they had honestly earned, if only they received the desired backsheesh. On our return to the Nubra Valley, and just as we were preparing to make a new start towards the highest summit of the Sasir Range, they were on the point of leaving us in the lurch. I threatened to withhold their pay, without the least result. 'Keep the money,' they cried; 'we are going home.' But before they ran away, they came up and asked for backsheesh!

It was impossible for them to imagine any person doing anything without the hope of gaining thereby some coveted backsheesh. In a missionary hospital Dr. Neve had operated upon a Ladakhi patient, and when he was ready to leave the hospital where he had been nursed and fed without having had to pay a single 'anna' during three weeks, he went up to the doctor and asked for backsheesh; 'For,' said the patient, 'you surely would not have taken all this trouble over me and taken out the tumour, unless you were going to make money over the sale of it' . . .

This was a story that Tyndale Biscoe tells in his book. We discovered in our own coolies the same train of thought. I am sure they could not understand in the least why these mad sahibs wanted to 'clamber' over the glaciers, as our friend the Aksakal in Leh quaintly put it.

Only one of them had a glimmering of the truth, and he was a philosopher in his own way. Our guides had christened him the 'White Bear,' because of the shaggy appearance he presented, wrapped in a rough sheepskin.

The White Bear had told our interpreter that the Sahib would never have climbed all those high mountains if he had not been sure of finding something of great value there! Perhaps this simple-minded coolie, pondering over the problem, had had a vision of an enormous heap of backsheesh on some mountain-top.

And the White Bear in his primitive wisdom was nearer the truth than he could have imagined; for my wife and I did find something of great value on those high Karakoram mountains, though it was not gold or silver. For we brought back from those lofty heights memories to fill a whole lifetime!

THE AIGUILLE DE ZALLION.

By H. E. G. TYNDALE.

IF you look eastward from the chalets of Praz Gras (where, alas! it is now *défendu* to provide milk for the thirsty conqueror of the Aiguilles Rouges), you will see a long line of cliffs fronting you across the Arolla valley, rising steeply out of an endless wilderness of boulder and fragments of shrunken glacier; cliffs pale yellow and smooth here, grey and broken there, again deepening to a rich chocolate red or

Aig. de Zallion.

Dent de Zallion.

Pte. des Genevois,

Dent Perroc.



FROM NEAR PAS DE CHÈVRES

throwing out some flattened buttress flanked by unbroken slabs. On the left stands the Petite Dent de Veisivi, sentinel of the valley ; in the centre, Dent de Perroc disputing precedence of height with her neighbour Pointe de Genevois, whence the ridge drops quickly southward to rise at first gradually in gentle curves to the broad, humpy Dent de Zallion, then in a sharper ascent towards the Aiguille de la Za.

Between these two latter points rises a conspicuous sharp summit, nameless hitherto, barely lower than the Za and about three hundred feet higher than the Dent de Zallion. A long buttress runs unbroken up to this summit from the west, broad in its base and clearly very steep, narrowing in its upward course and curving gradually leftward towards the main ridge. Was this, we wondered, a route—perhaps even the ideal way to the Za? Stone-free, without a doubt, unlike the ordinary western approach to the Za. Let us return to the hotel and see what Larden's guide will say about it.

To our delight, Larden said nothing, and through a fine basking Sunday we were often at the telescope, in no way discouraged that probably the stiffest part of our buttress hid itself behind an outstanding moraine.

On August 14, 1922, before sunrise, Irving and I crossed the torrent and made our way through whatever of pinewood the great rock-avalanches from La Maya have spared. In many places the ground is ploughed up as if from a bombardment ; and probably it would be wise to cut a new path further northward. Hot and breathless as the air had been in the valley, it became clearer and cooler as we approached the moraine, and when we halted for breakfast towards seven o'clock every sign pointed to an unclouded morning of windless calm.

How good is a return to the high places, when the early sun is searching the hollows of the westward hills ! How much to recall every time—that harsh call of the nutcracker as he flaps by fussily in search of new pine-kernels, the black redstart watching from boulder to boulder, and the alpine accentor's note first heard as you clear the trees. Here in the deep grass rises the purple gentian, bearded campanula by the wayside ; and soon aster, viola and vanilla orchid greet you as one long strange to the upper pastures. Thus was that lack of training quite forgotten till the serious business of the day was upon us. The moraine ended abruptly ; below and to the right was the small twisted glacier whose

chief occupation seems to be that of collecting every stone-fall from the Za ; above us stood the blunt end of our buttress. Nearly eight o'clock as it was, the shadow of the rocks mounting steeply to the main ridge some two thousand feet above shut out the sunlight, and would keep us cool for some time to come.

To start at the very lowest point of our buttress was impossible, for there was nothing but vertical slabs. Moving a short way towards the Za, we found a ledge sloping at an easy angle up to the right, past the mouth of a broad, open gully, and continuing beneath an overhang round to that face of the buttress which looked into the heart of a great couloir. This wide cleft separated our ridge from the rocks of the Za, and continued upward, an unbroken icy stone-shoot, to reach the summit crest just north of the Za. Our ledge meanwhile was delectable, if one may here use a word sacred to much more formidable climbing in Wales ; delectable in its abundance of hold, in its wealth of plants—old friends greeting us again from every crack—and in the joy of well-nailed boots gripping once more a firm, rough, rocky surface. Approaching the Za couloir, the ledge became smaller until it ceased beneath a steep red cliff. Progress directly upward seemed possible on such fine rock, but the angle was fierce and we could not be sure of finding a way to a higher ledge, which seemed to the upward gaze to offer promise. Discretion therefore prevailed over valour, and we retraced our steps along the ledge to the broad, open gully. Broken rock and grass soon led to the foot of a small cave, recalling wintry days on Tryfaen. We climbed easily up the right-hand wall ; and just above, where the gully was narrowing into the heart of a forbidding cliff, was another cave-pitch, larger but no more difficult, exit from which would probably lead to the upper ledge noted from below. Away to the left, inaccessible across a curtain of slab, ran the crest of our buttress, still rising steep in its first upward step from the moraine, but well broken and promising soon an easier angle of ascent.

On leaving the upper cave we found, in fact, that a small ledge, again delectable and of the firmest rock, led upward to the right at a comfortable angle, though here and there of an uncomfortable narrowness. Holding was excellent ; nowhere was there any difficulty more serious than a delicate balance round some steep corner ; but though we moved constantly upward, our ledge ran always across the southern face of the buttress, and the steepness of the rock above

forbade as yet all thought of a direct ascent to the crest. Most impressive was our narrow view, above and below, red walls of smooth rock with occasional cracks that sheltered the hardier plants, framed by a cloudless blue above and the cold stony hollow of the *Za couloir* now several hundred feet beneath. We had risen enough to see the hotel and the white chapel among the pines, hidden hitherto by a shoulder of moraine, and imagined busy eyes, fresh from contemplation of a leisurely breakfast, searching out our movements with the telescope—*Praz Gras* basked in a generous sunlight.

We began to wonder if our ledge would continue his friendly service. Steady progress he gave to be sure, but slow; and the steep left-hand wall brought a craving for more elbow room. A careful swing round an overhang revealed more open ground, and close above us was the crest of the buttress, now rising gently; at last we could turn leftward, making for a steep crack. It went beautifully, with the largest and roughest of footholds, and we stood looking far down to *Satarma* and the *Lac Bleu*, and the wide range of pasture above *Evolena*. Our first step was behind us; the morning was yet young and the weather perfect. While we sat a moment to refresh ourselves with a sight of the distant *Oberland*, glancing up now and then to take comfort how easy was the next stretch of ridge, we boasted that we had found the one safe, the one quick, simple route to the *Za*, and that too under the very noses of *Arolla's* experts—*Nepioi*!

Already we were well above the lowest rocks of the *Za*, and now began to make height rapidly up the crest, where the rock lay broken into broad slabs with an occasional tiny patch of scree. On either side immense cliffs ran down, but luckily there was no call to search their faces for a traverse. A small brown gendarme stood high above us, and beyond him we hoped for another broad stretch at an easy angle; but we were soon busily at it again, for the ridge grew suddenly steep and its smoothness drove us off to the right. The way was not easy to find; we rarely got a long view forward, and the more tempting traverses led downward to a fearsome region of slabs dropping holdless for a great depth into the *Za couloir*. A hundred feet or so above us the crest still rose steep and unpromising, and indeed none of the cracks opening on our left looked helpful towards regaining it. Yet as we moved across the face, one ledge leading conveniently to another, we did not often lose height and never the interest of route-finding. Very gradually we neared the

crest ; a short, steep chimney took us up merrily under an overhang that covered a broad level slab, along which wriggling lizardwise and much hindered by rucksacks, we found ourselves again astride the crest.

By now it was nearly eleven o'clock. Still the formless Dent de Zallion overlooked us from the left across a wide semicircle of grey slabs—of a kind most repulsive to the climber ; though firm enough they were undercut and lay one above the other, like rows of crabs' backs. Thoughts of a traverse over such rock now forced themselves upon us ; for there had come into sight, not far above us, a section of the ridge which even on distant Praz Gras had troubled the imagination ; a section where, if the ridge itself should give no passage, we knew that the S. side was one vast slab, descending in a bare, measureless slope to the Za couloir and broken only by a huge overhang. So two rather anxious men went up a steep, broken face and over a small gendarme, to find a dismaying prospect. It was in truth much more like the edge of a gable than any reasonable arête should be, dark brown in colour, not extremely steep but absolutely holdless. Out of the question to traverse its S. side ; equally so a direct ascent ; there remained only to search for a route among the grey crabs' backs to our left. And here fortune was wonderfully kind : just where our need was the greatest she had built us a ledge across the face, somewhat 'scabreux' in nature, where every hold sloped outward, but nowhere steep or narrow enough to try the balance unduly. True, it took us some way from the crest and gave little gain in height. But at least it led forward ; and where it ran out into smoothness the upward angle was not too severe. From here we could strike straight up for the ridge, still doubtful if it could be reached ; the holds, however, though few and sometimes none too reassuring, were always well placed. Progress was steady, and soon the upper part of the gable was near us. A short downward traverse to the right, and we were almost upon it, separated only by a bulging brown tower which looked too evil to cross. Immediately below, and parallel to the crest, was a stretch of slab, distressingly smooth but not oversteep and leading up towards a crack which if once attained seemed to give certain access to the crest.

I was standing in a broad hold somewhat to the left of this slab, and at first could watch the leader moving upward with great care over the wrinkles of the rock. Clearly it was no place to hold safely the second man, and as the coil of sixty-

foot rope at my feet grew ever smaller my anxieties increased. Was there any prospect of a holding-place? I called up. No reply except a steady passage of rope through my hands. 'No more rope!' 'Unrope,' came the distant answer, and soon the end knot passed out of reach and sight. Few men can be so forlorn as the ropeless. Memory took me back eleven years to the late afternoon of a cloudless Italian day, when I had stood beside a pile of axes and rucksacks at the foot of the last overhang on the S. ridge of the Herbetet, waiting for a friendly rope from the two invisible and barely audible above, 'to join them as best I could.' I now climbed round to the base of the slab, and could see Irving well up in the crack and close to the crest. Soon he was astride, very pleased with life and looking upward confidently. 'We're as high as the Dent de Zallion,' he called down, and got out the spare rope; nearly one hundred feet were needed to reach me, and two or three shots before the knot-end came just within reach. If one must climb slabs by wrinkle-holds when training is bad and balance worse, it is very comforting to have a rope from above; shortly below the entrance to the crack the slab grew steep and a clumsy step would be difficult to recover. It was good to be on the crest again, to look down upon that repellent gable now well below us and shutting out all view of the lower ridge, and to hear a confident voice, 'Steep, but straight ahead now, I believe.'

The difficulties, in truth, were over. Except for the last stretch of slab they had never been severe, but there was hardly any portion of the climb where our route lay obvious to follow, and we had often wondered if some sudden obstacle might not check all further progress. The more pleasing was it now that we need not leave the crest. Very narrow in places, sound and warm to the touch, it never gave trouble, and brought us quickly to the foot of the twin summits. The higher lies to the right, looking from below like a crooked finger: he proved game to the end, sent us round to the S.E. foot, and gave a delightful short scramble round steep corners and up to sit astride of a beautiful rough yellow slab, in great contentment.

Hardly a breath of wind stirred. Towards the E., now first seen across the wide Mont Miné snowfields where a few cloud shadows drifted lazily by, stood the Zermatt peaks, with their host of memories. Westward, we could tell the number of Mont Blanc's attendant cathedrals, shining in that faint icy blue of a fine-weather distance. At our feet the Za

couloir fell grey and forbidding to the moraine where five hours earlier we had roped up ; the Za himself rose sharp and reproachful, not two hundred feet above, and round his foot lapped gentle waves of glacier, promising an untroubled return to the valley. An hour went by unnoticed as we basked and brewed our tea, sleepily recalling the details of our climb ; unnoticed also the sun now too scorching, and a gross darkness gathering slowly over the Aosta valley.

We descended quickly to the N. Col de Bertol, and down over its schrund by a wide bridge, as yet safe though clearly not long-lived. Mont Collon and the peaks of Chermontane were still bathed in sunlight, but already behind them a wall of thick cloud crept forward under a gusty S.W. wind. As we fled down the zigzags towards the lower Arolla glacier, the first grey fingers of storm curled round the upper Vuibez crags, distant mutterings of thunder grew nearer and lightning played about the Aiguilles Rouges. Soon there was a sound of much rain, and a great wind rushing valleyward flung us home, soaked but triumphant, to the welcome of a bedroom tea.

And if we discovered that our route was no novelty, for all our boasting, and certainly a very long way to the Za ; or that its first conqueror apparently had not even thought of recording his victory over a peak to which Siegfried would give neither name nor height : and if Dr. Dübi's admirable guide-book is temptingly ambiguous about the whole matter—what then ? For us it had all the charm of a new route : not a boot-scratch to cheer our way, constant doubt if the next corner might not prove fatal to success, disturbing thoughts of that brown gable and its flanking slabs, and for myself the perfect confidence born of years under Irving's leadership. I must indeed confess to have groaned aloud as that crooked finger beckoning from the summit never seemed to come nearer, but always to mock my bad training, and to have searched out the temptation of an unattractive descent into the icy depths of the Za couloir. Yet as we first gained the crest of our buttress, and knew that at any rate the steepest bit must now lie beneath us, I had thought how Guido Rey himself took heart from a memory of Dante's words—'*Cette montagne est telle, que toujours au bas, dans les commencements, elle semble difficile. Mais plus l'homme s'y élève, moins il y trouve de peine.*'

MONT BLANC BY THE INNOMINATA ARÊTE.

By G. F. GUGLIERMINA.

(Translation.)

THE problem of an ascent of Mont Blanc by the great arête dividing its S. face into two sections, Fresnay and Brouillard, first presented itself to my brother Baptiste and me on the occasion of our attempt on the Aiguille Blanche de Peuteret in 1912, when bad weather defeated us precisely at the little col utilised by Mr. Eccles in 1876 to attain the upper plateau of the Fresnay Glacier.

We made in 1915 and 1916 serious attempts on this Innominate arête. In the latter year Baptiste and I, with an Alagna porter, reached a point considerably above the little col referred to, my brother climbing a vertical fissure in a smooth slab which proved to be the most difficult bit, in fact the key, of the entire expedition. From the Cabane Gamba it had taken us the whole day to reach this point, beyond which the way was blocked by a colossal icicle which would have entailed long and arduous work with the axe. Accordingly we descended the slab and a less difficult chimney and bivouacked lower down, on a fairly convenient ledge looking down on the Brouillard Glacier.

During the night the weather got bad and by 6 A.M. a thick mist enveloped all the upper part of the mountain. A *tourmente* of snow caught us a bit below the little col and got perfectly furious at the Col du Fresnay, much embarrassing our descent.

To simplify the following description I venture to make a few remarks on the nomenclature of this face of the mountain. I am in full agreement with Captain Finch as to the names proposed by him ('A.J.' xxxiv. 117 *seq.*) for certain points of the Innominate arête such as Pic Eccles for the little aiguille above the Col du Fresnay and Col Supérieur du Fresnay for the little col immediately N. of the Pic Eccles. On the other hand I think it superfluous to rename the Col du Fresnay the Col Inférieur du Fresnay, since it is an old well-known col, often visited, and no sort of confusion can arise between it and the little Col Supérieur. The Cols Emile Rey and de Peuteret are too well established in Alpine literature to be subject to any re-christening.

In August 1919 with our friend Francesco Ravelli, we ascended once more to the Pic Eccles. A long examination of the upper part of the buttress impressed us that for some considerable part the line of ascent would lie along the flank of the main arête quite close to the great couloir on the Brouillard side. We witnessed such frequent stone-falls in this couloir that we arrived at the conclusion that the ascent was too dangerous and gave up any attempt.

A week later, with the mountain in better condition (the weather meantime had been continuously fine and very hot), the memorable ascent of Messrs. Courtauld and Oliver, with the two Reys and Adolf Aufdenblatten, took place. They did not follow the main arête but almost exclusively the Brouillard Glacier and the wall or face above this glacier, which wall they gained after having touched the Col Supérieur du Fresnay, and climbed the 'mauvais pas' overcome by us in 1916 as described above.

Towards the end of July 1921, Ravelli and we were once more in Courmayeur after making the first passage of the Col Maudit (4051 m.), the weather being superb. Well satisfied with having opened a new route up Mont Blanc from the Rifugio Torino by the passage of this col, and with the mountain in favourable conditions, we began to think once more of our old project of the arête de l'Innominata.

The afternoon of the 28th saw us *en route* for the Gamba hut with a young man of the village, Lucien Proment, as porter, acquainted so far with the Col du Géant only, but very keen to do a *grande course*. On the 29th the weather not being completely certain we crossed the Col de l'Innominata and found the lower part of the Glacier du Fresnay such a labyrinth of crevasses and séracs that almost 6 hours of unheard-of work were needed to get through and back to the hut. Next day we sent the porter down for more provisions and finally about 6 A.M. on the 31st we set out, determined on a serious attack, although the weather was not absolutely certain.

Up the little Vallée du Châtelet and the rocks above, we reached the Innominata arête a little above the col of the same name and followed this arête rigorously to the summit of the fine point, 3717 m.—5½ hours from the hut. The weather was not perfect and made us rather undecided. After a long halt we roped in the following order, Ravelli, Baptiste, myself, Proment, and undertook the descent of the short N. arête, which nevertheless requires the greatest precautions and

considerable time on account of its extremely broken and crumbling rock. We reached the Col du Fresnay without incident when the first threats of mist and little flakes of snow drove us to a fresh halt. We sought shelter on the Fresnay side and a little later decided to bivouac there. Towards evening the weather mended.

To make myself clear I request my readers to refer to the plates—the one showing the whole of the Innominata arête to the summit of Mont Blanc, the other an enlargement of the portion contained between the Pic Eccles and the main Brouillard arête (S.W. of Mont Blanc de Courmayeur).

On August 1 we set out in good weather and followed first the ice ridge above the col and then the rocky edge of the great precipice above the Glacier du Fresnay. We passed the Courtauld-Oliver bivouac and reached the foot of the very steep snow couloir which leads up Pic Eccles (A on Plate 2). Much to our disgust the snow was ice and our leader Ravelli had much work with the axe as our crampons did not give absolute security.

Once up the couloir we were on the crest of the arête. The passage to the Col Supérieur is not quite easy, astride, owing to very sharp bits of rock; nor the crossing, on the Fresnay flank, of the knife-edge ice arête of the col. From this point we followed our line of 1916 which we found in much better condition than then, being clear of snow. After passing a length of broken rocks the formidable spur soon became vertical. We took to the Brouillard flank on the left and by good rocks followed by a sort of abrupt chimney we reached a very narrow vire or ledge where the wall rises in a vertical slab to the crest of the main arête. We were at our 'mauvais pas' of 1916 (C on Plate 2). The slab joined on its left the wall of a great gendarme, forming a fissure with hand-hold, enabling one to complete the not very long remainder. We thus gained a little terrace (occupied in 1916 by the great icicle) of which the opposite edge plunges into the gigantic couloir on the Fresnay side. From this point, still bearing to the left, one gets round the gendarme across a very narrow brèche and so gains once more the crest of the arête at the foot of a very steep face, of which, however, good holds facilitate the ascent. We found hanging here a short bit of rope. From here the way becomes easier and we arrive over broken rocks and some scree, at the edge of a névé filling the bottom of the little valley or couloir which separates our arête from a secondary arête, on the face above the Brouillard Glacier.

It was at this point (D on Plate 2) that the Courtauld-Oliver party left the main arête to take to the secondary arête.

At this moment we were unfortunately enveloped in mist, so thick as to prevent for some time any examination of the ground ahead. We seized the opportunity to eat while waiting for the view to clear. During our meal there occurred a terrifying fall of stones in the couloir. By good fortune we escaped being struck by any rebounding stones, but we had to admit that our fears of 1919 were not completely unjustified.

However, we decided to proceed, following along the base of the gigantic 'columns' (H on Plate 2) of magnificent red protogine which at this point characterise the profile of the arête. This part of the ascent is over broken rocks and snow until it is possible to attack the flanking wall which offers a very interesting climb up little slabs and almost vertical fissures, not really very difficult, until the crest of the main arête is regained above the 'columns' (D1 on Plate 2).

We had here the feeling of good work done, but our anxiety increased as to the possibility of finding a passage to deal with the great final precipices.

The mist, having remained below, allowed us to study our route. It became less steep and more reasonable, and we followed the crest, alternately snow and rock, to point E on Plate 2, close to the head of the great couloir down which the stones from the famous final plaques or precipices fall. These precipices, we are compelled to admit, allow of no discussion.

A look to our right into the abrupt Fresnay couloir shows no better prospect: immediately above several sheets of black ice, bearing traces of missiles from above, the couloir ends in a veritable chimney, strangled between two ferocious walls, covered with *verglas* glistening in the last remnants of daylight. We abandoned all idea of trying it and descended to point E, where we chose a bivouac on the Fresnay side, a little below the crest of the arête. We estimated the height at about 4400 metres.

Next morning, August 2, we decided to solve the difficulty by a traverse on the Brouillard side. The indefatigable Ravelli, well secured by Baptiste, had heavy work with the axe, in the hardest ice, all across the couloir. The névé is of most impressive steepness and exposed to stones from the moment the sun reaches the rocks above. This work over we reached loose rocks demanding the greatest precautions. We progressed the length of a narrow, very inclined névé, and alternating by snow and rock climbed the flank of the secondary



Telephoto Gugliermina.

MT. BLANC VU DU MT. PARAMONT (RUTOR).

..... Ascension 1921 Gugliermina-Ravelli par l'arête de l'Innominata.

R G.—Refuge Gamba.
 G B.—Glacier du Brouillard.
 G F.—Glacier du Fresnay.
 1.—Innominata.
 2.—Col Fresnay.
 3.—Pic Eccles.

4.—Col supérieur du Fresnay.
 5.—Mt. Brouillard.
 6.—Col Emile Rey.
 7.—Pic Luigi Amédeo.
 8.—Aig. Blanche de Peuteret.
 9.—Pointe 4,381 m.
 10.—M. Blanc de Courmayeur.

+ Bivouacs à 3,600 et 4,400 m.

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S. FACE OF M. BLANC DE COURMAYEUR.
(Enlargement.)

THE RELIGION OF THE MOUNTAIN.

EXTRACTS from a speech delivered by General the Rt. Hon. J. C. Smuts, Prime Minister of the Union of South Africa, on February 25, 1923, when unveiling the Mountain Club Memorial at Maclear's Beacon, Table Mountain :

' . . . Those whose memory we honour to-day lie buried on the battlefields of the Great War, where they fell. But this is undoubtedly the place to commemorate them.

' Nothing could be more fitting and appropriate than this memorial which the Mountain Club of South Africa has erected to the memory of their members who fell in the Great War. And this, the highest point on Table Mountain, is the place to put the memorial. The sons of the cities are remembered and recorded in the streets and squares of their cities and by memorials placed in their churches and cathedrals. But the mountaineers deserve a loftier pedestal and a more appropriate memorial. To them the true church where they worshipped was Table Mountain. Table Mountain was their cathedral where they heard a subtler music and saw wider visions and were inspired with a loftier spirit. Here in life they breathed the great air ; here in death their memory will fill the upper spaces. And it is fitting that in this cathedral of Table Mountain the lasting memorial of their great sacrifice should be placed. Not down there in the glowing and rich plains, but up here on the bleak and cold mountain tops. As Browning put it :

" Here, here's their place,
Where meteors shoot,
Clouds form,
Lightnings are loosened,
Stars come and go."

Here for a thousand years their memory shall blend with these great rock masses and humanise them. The men and women of the coming centuries, who will in ever-increasing numbers seek health and inspiration on this great mountain summit, will find here not only the spirit of Nature, but also the spirit of man blending with it, the spirit of joy in Nature

deepened and intensified by the memory of the great sacrifice here recorded.

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‘And so it has come about that finally in man all moral and spiritual values are expressed in terms of altitude. The low expresses degradation both physical and moral. If we wish to express great intellectual or moral or spiritual attainments we use the language of altitudes. We speak of men who have risen, of aims and ideals that are lofty, we place the seat of our highest religious ideals in high Heaven, and we consign all that is morally base to nethermost hell. Thus the metaphors embedded in language reflect but the realities of the progress of terrestrial life. The Mountain is not merely something externally sublime. It has a great historic and spiritual meaning for us. It stands for us as the ladder of life. Nay, more, it is the ladder of the soul, and in a curious way the source of religion. From it came the Law, from it came the Gospel in the Sermon on the Mount. We may truly say that the highest religion is the Religion of the Mountain.

‘What is that religion? When we reach the mountain summits we leave behind us all the things that weigh heavily down below on our body and our spirit. We leave behind all sense of weakness and depression; we feel a new freedom, a great exhilaration, an exaltation of the body no less than of the spirit. We feel a great joy. The Religion of the Mountain is in reality the religion of joy, of the release of the soul from the things that weigh it down and fill it with a sense of weariness, sorrow, and defeat. The religion of joy realises the freedom of the soul, the soul’s kinship to the great creative spirit, and its dominance over all the things of sense.

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‘The mountains uphold us and the stars beckon to us. The mountains of our lovely land will make a constant appeal to us to live the higher life of joy and freedom. Table Mountain, in particular, will preach this great gospel to the myriads of toilers in the valley below. And those who, whether members of the Mountain Club or not, make a habit of ascending her beautiful slopes in their free moments, will reap a rich reward not only in bodily health and strength, but also in an inner freedom and purity, in an habitual spirit of delight, which will be the crowning glory of their lives.

‘May I express a hope that in the years to come this memorial

will draw myriads who live down below to breathe the purer air and become better men and women. Their spirits will join with those up here, and it will make us all purer and nobler in spirit and better citizens of this country.'

The President of the Mountain Club (Dr. B. Hewat) stated that ninety-six members had joined the colours.

THE AMERICAN MEMBERS OF THE ALPINE CLUB.

Minutes of Meeting held December 2, 1922.

THE fourth Dinner of the Association was held on December 2, 1922, at the University Club in New York City; the following members being present: Allston Burr, J. Ellis Fisher, Le Roy Jeffers, Howard Palmer, H. B. de Villiers-Schwab, and William Williams. The following attended as guests: Messrs. Allen Carpe, Louis Delafield, and J. Monroe Thorington.

Mr. William Williams gave some of his recollections of his Mt. St. Elias expedition, and of earlier climbing days. The second portion of his talk was devoted to explaining a fine series of lantern slides covering mountains in Japan, Hawaii, Canadian Rockies, and the Alps.

Mr. de Villiers-Schwab followed with a short account of the First Mt. Clemenceau Expedition undertaken in July-August 1922, with Messrs. Carpe and Hall. This was illustrated by Mr. Carpe's and his own slides. The expedition was unsuccessful in its main object, largely owing to bad weather, but did accomplish a thorough reconnaissance of Mt. Clemenceau, and succeeded in making one first ascent, Mt. Apex (10,625 ft.).

Mr. Howard Palmer gave an interesting account of the expedition made by him and Dr. Thorington to the Freshfield Group, where they were successful in making a number of first ascents. Some fine slides of Dr. Thorington's were used to illustrate his account. Informal discussion followed the lectures, and the meeting concluded about 11.45 P.M.

In addition to the above expeditions, Mr. William Williams made a trip to Japan and Hawaii in the spring of 1922; during the summer Mr. Val Fynn finally accomplished the difficult ascent of Mt. Victoria by the face; Mr. Le Roy Jeffers traversed

Lassen Peak (10,437 ft.), made some minor climbs in the Salmon River Mts. of Northern California, ascended Mt. Moran (Grand Tetons) for the second time, and traversed it. Mr. J. Ellis Fisher is at the present moment on his way to Chamonix for some winter climbing.

The fifth Dinner will be held in Boston early in May 1923.

H. B. DE VILLIERS-SCHWAB,
Hon. Sec.

11, Broadway, New York City.

IN MEMORIAM.

EDWARD ROBSON WHITWELL.

1843-1922.

ANOTHER of the veterans, whose name often occurs in our earlier annals, started on the long trail on October 14.

Born at Sunderland, January 27, 1843, Mr. Whitwell married in 1873 Mary Janet, daughter of the late E. A. Leatham, M.P., of Misarden Park, Gloucestershire. She, with two sons and three daughters, survives him.

A man of great enterprise and an indefatigable worker, his business interests lay mainly in coal-mining, and he was Chairman and Vice-Chairman of important Collieries.

He was a D.L. and J.P. for the county of Durham, well known with the Zetland and Harworth hounds, a good deer-stalker, and in his later years a keen yachtsman, becoming a member of the R.Y.S.

Mr. Whitwell was elected to the Club in 1868. In 1870, as he has recounted in *ALPINE JOURNAL* v, vi, and vii, he was a member of Mr. Tuckett's Tyrolese party and made, with C. Lauener and Santo Siorpaes, the first ascent of the Cimone della Pala by the N. face, a route dangerous from stones and now seldom taken, the first ascent of the Croda Rossa from Val Buones direct to the summit, a route since taken probably but once and then in descent, and the first ascent of Piz Popena. An attempt on the Pale failed.

In 1871 and 1872 he had the services of Christian and Ulrich Lauener on journeys of three and four weeks' duration. Their expeditions were among the most notable of the time, and in the epitome of Ulrich's *Führerbuch*, *ALPINE JOURNAL*, xxx. 301 *seq.*, I dealt with them at considerable length, and reproduced portraits of both Mr. Whitwell and Ulrich. In the same volume, 168 *seq.*, Mr. Whitwell gave us interesting reminiscences of early attempts on the Géant and Dru.

His two greatest ascents were made in 1874, when, with Christian

Lauener and his son Johann, he made the first ascent of the Central peak of the Blaitière and an ascent of the Dent Blanche by the E. face, a route probably not since taken. This unfortunate mountain, reputed the hardest of the Pennines in my early days, now has not less than nine routes or variations up its flanks and ridges!

Mr. Whitwell's climbing days ended in 1878 when other pursuits absorbed his energies, but he remained to the end of his life keenly interested in our doings.

J. P. F.

M. A. BAYFIELD.

1852-1922.

THE Rev. Matthew Bayfield died at Hertingfordbury Rectory, Hertford, on August 2, 1922.

He was a Scholar of Clare College, Cambridge, and took a First Class in the Classical Tripos of 1875. He held Assistant-Master-ships at Marlborough, Malvern, and Brecon, and when first I knew him had become Headmaster of Eastbourne College. A Classical scholar of originality, and of almost international repute, he edited many texts, chiefly Greek, and collaborated with Professor Verrall and Dr. Leaf.

In a sympathetic obituary notice in the *Times* he was described as a 'many-sided man.' An accomplished linguist, a lover of music and of literature, he was best known, in later years, for his ingenious commentaries upon the text of Shakespeare, and for his experiments, made in conjunction with Professor and Mrs. Verrall, in thought transference. He was a Member of the Council of the Society for Psychical Research. His later works, 'The Measures of the Poets' and 'A Study of Shakespeare's Versification,' were published by the Cambridge University Press in 1919 and 1920.

During the War he lost his wife, and later his only son, a promising naval officer who went down in the *Black Prince*. Hard work remained his only solace. He continued at his books even during his own illness, and performed his parish duty with a cheerful courage invaluable as an example. His last note to myself, written with a pencil, after months of painful illness, contained, characteristically, an appreciation of the facsimiles of Milton's early poems, which I had formerly given him, and expressed his triumph in the confirmation which they afforded him for his theory of Shakespearian 'abbreviations' as a continuous literary tradition.

Bayfield was elected a Member of the Alpine Club in 1875. He did much of his early mountaineering with the late Rev. Arthur Fairbanks, to whose school of finished icemen he belonged. He carried the short light axe invented by Fairbanks, and which has

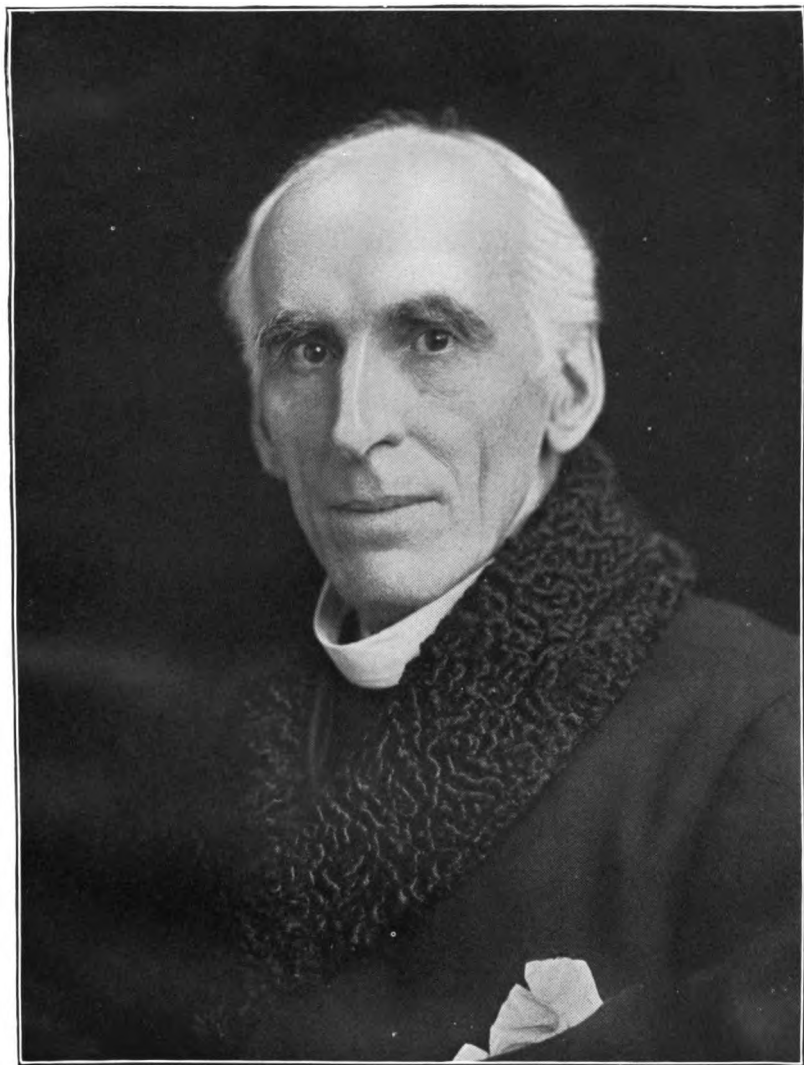


Photo Elliott and Fry.

THE REV. MATTHEW BAYFIELD

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lately been revived for use with crampons—although crampons he himself would never wear. Of short stature, he had the perfect balance of the trained gymnast, and to see him and Geoffrey Young on the Great Aletsch Glacier, doing standing glissades in competition down steep slopes of hard ice, was some excitement for the onlooker. On rocks he was superb, climbing, even in middle age, with a rapidity and a perfection of balance unsurpassed by any amateur of his time. Long tramping fatigued him; and his list, therefore, of big Alpine expeditions can give little idea of his remarkable mountaineering gifts. But, even so, I can recall an ascent with him of the Jungfrau in deep snow, a traverse of Mont Collon, and a fatiguing tramp over Cader Idris.

He was little known to the Club. In his mountaineering, as in his studies and in his life, he had no desire for recognition. In all his interests he remained the scholar and the somewhat eclectic connoisseur, cultivated in taste, original in thought, and accomplished in performance. His enthusiasms—and among them his love of the mountains stood first—he reserved for the enjoyment of himself and of his friends. To them he has left the memory of many happy hours, spent in the company of a witty, brilliant, unusual, and very lovable personality.

G. E. W.

HENRY FOULKES KINGDON.

1862–1922.

HENRY FOULKES KINGDON, who died on August 7, 1922, was educated at Winchester. He entered the service of the Marine Insurance Company in 1883, and was appointed manager in 1918.

He was elected a member of the committee of Lloyd's Register of Shipping in 1920, and was chairman of the Institute of London Underwriters for 1921.

Mr. Kingdon had many interests, apart from marine underwriting. As a younger man he had been a keen mountaineer, and he was a member of the Alpine Club. He was an ardent volunteer, and obtained his majority. He was an enthusiastic yachtsman, and was as happy at his carpenter's bench as with his books. Reserved and quiet in manner as he was, many who met him for the first time may not have been able completely to understand him; but those who knew him recognised his sterling character.

C. STEWART KING
(former member A.C.).

RUDOLF LOCHMATTER.

1875-1923.

RUDOLF LOCHMATTER, the eldest surviving member of the well-known St. Niklaus family of guides, died on March 10, after an illness of a week only, at the comparatively early age of 48.

He obtained his certificate as a fully qualified guide when he was twenty-three years old, and it soon became evident that a new star had arisen in the guiding world. By reason of the brilliant qualities which he displayed, he was rapidly making a great name when at the end of 1900 his career was suddenly cut short by an unfortunate accident which deprived him of his left hand. He did not climb again until 1906, when he joined a Genevese friend, Monsieur Gouy, in a short season, and in 1907 he became second guide to Mr. Somers and myself, and accompanied us every season afterwards (excepting of course during the war).

The first names of English climbers which occur in his book are Mr. W. M. Baker (an old friend of his father) and Colonel Strutt, these being followed by those of Mr. Littledale, Mr. A. B. Thorold, and Mr. Austin Clover. With Mr. Thorold and Josef Pollinger he took part in a remarkable first ascent of the Grands Charmoz from the Mer de Glace, and with Mr. Clover he accomplished the first descent of the Weisshorn by the N. arête. In addition to these, he achieved many of the great climbs in various districts. From 1906 onwards he also did a considerable amount of climbing with Mr. Somers and myself and one or two Genevese gentlemen who were interested in him. He accompanied Mr. Winthrop Young as sole guide in a traverse of the Matterhorn, and in October last was chosen by Messrs. Charles and Edouard Gos as one of the guides on a remarkable traverse of the same peak, on which occasion a series of cinematograph pictures was taken. A few days later he took part with the same gentlemen in an attempt to ascend the Edelspitze (the St. Niklaus Gabelhorn), which was frustrated by bad weather.

Rudolf Lochmatter was a very handsome fellow (a fact of which he was singularly unconscious), rather under medium height, lightly built and slender. He was a first-rate snow- and ice-man, and in rock-climbing had probably no superiors, the ease and grace with which he climbed making his movements a constant delight to watch. After his accident he learned to make a clever use of his maimed arm, and his remarkable balance and sureness of foot made one forget that he had lost one of his hands. The best testimony of his powers which I can give is the fact that when I consulted old Christian Jossi on the question of Rudolf joining us as second guide, my old friend merely remarked that he would prefer him to most guides with two hands.

Of his personal character I cannot speak too highly. The mishap which deprived him of a hand would have soured the dispositions

of many guides of his calibre, but although it saddened such a keen lover of climbing as he was, Rudolf met his misfortune with the greatest fortitude, and when he learned that he was to join us as second guide, his intense satisfaction was a joy to witness. His extraordinary thoughtfulness, unselfishness, modesty and intelligence made him the most delightful companion imaginable. In short, he was one of nature's noblemen, and more than that I cannot say.

SYDNEY SPENCER.

THE ALPINE CLUB LIBRARY.

The following additions have been made to the Library:—

Club Publications.

Akad. Alpen-Ver. Berlin. 29. Jahresb. $9\frac{1}{2} \times 6\frac{1}{2}$: pp. 20: plates. 1922
First ascents, 1922:—*J. Heidenhain*, alone, Zwölfer N.-Grat: *G. Künne*, Graftalp. Roter Schragen fr *E. Ruiskogel*: *P. Borchers*, Aig. de Toule d. N.W. arête.

Blgarski Tyrist. Vol. 15, nos. 1–2. 12×9 : pp. 32: ill. Sept., Oct. 1922
No. 1 contains Mlle d'Angeville's ascent of Mont Blanc.

C.A.F. La Montagne. Rev. mensuelle. 18e année. 9×6 : pp. xvi, 272: ill. 1922

Among the articles are:—*J. de Lépiney*, Premières ascensions dans la région du Col de Blaitière (first ascent Aug. 12, 1920: *J. de Lépiney* and *P. Chevalier*, attempt and ascent of the Aiguille): *F. Oblat* and *J. A. Morin*, Ascensions d'hiver en Corse (Cinque Fratri, N. and S.; Mte Cinto; Clochetons de Calasima): *J. Arlaud*, Aux Pyrénées désertes: *H. Vallot*, La crête du Mont Joly au Col du Bonhomme: *E. Gaillard*, Les noms des heures dans la toponymie alpine (e.g. Neuner Kofel, Elfer Kofel, Eisner Kofel; Cima Dievi, Dodici; du Midi; Bec de None, de Mezzodi; Aig. de Tierce): *J. Vallot*, Thirty-fourth and last ascent of Mont Blanc, 1920: *J. Capedon* and *J. Escarra*, Itinéraires de l'Aiguille Doran: *H. Noirel*, Levés à gde échelle dans la région d. Alpes: *J. Blanchet*, Autour du Pic du Midi d'Ossau: *P. Dalloz*, *J.* and *T. de Lépiney*, Aig. du Peigne N.W. and W. arête: *M. A. Verney*, Face N.W. du Gr. Marchet, first descent 1921: *R. Richard*, Les Dents de Lanfon (with Bibliography of first ascents).

Among new ascents are:—*L.* and *H. Bordeaux*, Tête de la Cielaz, N. arête: *B. Leclercq* and *J. Savard*, Pte de Thorens S. and W. arêtes: *P. Guiton*, Pic d'Olan by N.W. face: *J. P. Loustalot* and *L. Zwingelstein*, Pierra Menta, 1922: *M. Luginbuhl* and *L. Zwingelstein*, Mont Aiguille S.W. face.

— Annuaire de poche. Guide et Porteurs. Chalets et Refuges. $7 \times 4\frac{1}{2}$: pp. 64. 1922

— **Canigou.** Bulletin. $8\frac{1}{2} \times 5\frac{1}{2}$: pp. 151. 1894

— Notice sur les excursions les plus intéressantes des Pyrénées-orientales. $8\frac{1}{2} \times 5\frac{1}{2}$: pp. 24. 1904

C.A.I. Rivista. Vol. 41. 10×7 : pp. 258: ill. 1922

Among the articles:—*A. Corti*, Gruppo d. Disgrazia: *A. Brian*, Laghetti dell'Alta Valsesia: *G. Gallina*, Mte Corno: *G. Cibrario*, Gruppo d. Limbara.

First Ascents, 1920–22:—*M. Strumia*, Becca di Monciair N. face: *R. Negri*, Fünffingersp.: Anulare S. face: *M. Baratonio*, etc., Aig. Verte ouest de Valsorey descent E., guideless: Becca di Nona N. face, guideless: *U. Balestreri*, Pierre Menue S. face: *A. Frisoni*, P. d. Saette, 1917, N. arête: tr Forcella Plent: *A. Bonacossa*, Mt. Dolent S.W. face: *G. A. De Petro*, M. Faroma S.W. arête, Denti di Vessona, M. Pisonet fr S., Becca del Merlo

- S.-S.W. arête : *L. Zacchi*, Sass Sougher E.N.E. face, guideless ; Mte Schiara S. face : *A. Frisoni*, etc., Mt. Vélán S.E. face : *A. and C. Calegari*, etc., Pizzaccio ; Pizzo Mater : *F. Chabod*, Dent d'Hérens S. arête : *E. Janetta*, etc., Corno Grande Vetta orient N.E. face ; Corno Piccolo E. face.
- C.A.I. Bassano.** A ricordo della inaugurazione della Sezione. 9 × 5½ : pp. 7. 1922
- **Bergamo.** Boll. mensile. Anno 3. 9½ × 6½ : pp. 144 : ill. 1922
In no. 10, first ascent Pte di Aga Merid. by W. face (I. Luschinger, B. Sala, F. Perolari) 1922 is described : also first ascents in Torretta group by the same : in no. 12 by the same, first ascent Pizzo di Coca by E.
- **Bolzano.** Rivista dell'Alto Adige e Bollettino mensile della Sezione. Anno 1, No. 21-22. 12 × 9 : pp. 12 : ill. Nov. 1922
Contains :—*F. Terschak*, La parete sud della Marmolada.
- **Sez. Fiorentina.** Bollettino. 9½ × 6½ : pp. 120 : ill. 1922
Among the articles are :—*R. Soria*, Prima traversata in sci del Mte Cimone : *T. Provati*, Ranunculus glacialis : *F. Pontecorvo*, Parete N.E. d. Roccandaglia, prima ascensione : *T. Provati*, Saussure.
- **Gorizia.** Bollettino bimestrale. Anno 1, no. 1-5. 9 × 6½ : pp. 50 : 2 photographs, Mte Mangart, Mte Jalouz. Apr.-Nov. 1922.
- **Milano.** Grande escursione alpina nazionale all'Etna. 9½ × 6½ : pp. 14 : ill. 1922
- — Atlas of 32 plates.
- Comunicato Mensile. Anni 1-3. 10 × 7 : ill. 1920-22
First ascents described, 1920 :—*A. Bertoli*, Pta S. Anna, W. arête fr Pte Torelli : *P. Marimonti*, Fünffingersp. S.W. face, Forcella d. Pollice. 1921 :—*A. and L. Boni*, 2da ascen. Guglis Miazza : *A. Calegari*, Mte Zeburu by E. : *L. Boni*, Corno Maggiore di Nefelgiu S.W. arête : *A. Balabio*, *A. Calegari*, Pizzo Zerna ; Mte Masoni N. face ; Cima Scoltador W. face, S.S.E. arête ; Mte Aga by N.E. ; Pta di Paddavista : *L. Polvara* and *V. Ponti*, Pta Rasica N. arête fr Colle Lurani. 1922 :—*P. Marimonti*, Camp. Basso d. Lastei di Focobon ; Cima di Zopel N.E. face.
In 2, no. 7 : notes on huts from Mte Rosa to Alto Adige.
- **Soc. degli Alpinisti tridentini.** Bollettino. Anni 12-13. 9 × 6 : 150 : 140 : ill. 1921-22
Among the articles are :—*G. Pederotti*, Le strade militari d. regione trentina ; La parete nord del Mte Agner : *V. E. Fabbro*, Ascensione d. Campanile di Val Montanaia (ill.) : *F. Terschak*, La parete est d. Cima piccola di Lavaredo (ill.) : *G. A. Sperti*, Ascensione del 'Campanile Rosa' (ill.) : *M. Manfroni* and *Ottone Brentari*, I. salita d. parete sud-est d. Cima Pordoi, 1922.
- — Nel suo cinquantenario 1872-1922. 11½ × 9 : pp. 194 : col. and other plates. 1922
This contains :—*G. Marzini*, La Società : *V. Stenico*, Rifugi alpini : *G. Lorenzoni*, Missione dell'alpinismo : *I. Lunelli*, La schiera del Susatini : *V. Stenico*, Le guida : *G. B. Trener*, Cesare Battisti : *M. Scotoni*, La Società e la guerra : *R. Flaim*, La S.O.S.A.T. : *A. Rossaro*, Cimiteri di guerra : *E. Quaresima*, I montanari d. Trentino : *G. Pederotti*, Le pubblicazioni sociali d. S.A.T.
- **Sucal.** Dispense. 11½ × 9. 1922
No. 1.—Alto Adige, Dolomite di Sesto, Regione Popena.
No. 3.—Regione Tofane-Pomagagnon, Popena.
- — La tenda. 6½ × 4½ : pp. 22 : ill. 1922
- — Che cosa è la Sucal ? 6½ × 4½ : pp. 30. 1921
- **Sez. Valtellinese, Sondrio.** Ricordo del Primo Cinquantenario dalla fondazione 1872-1922. 7 × 4½ : pp. 22 : maps, plates. 1922
- Cairngorm Club.** Journal, vol. 10, nos. 55-60. 9 × 5½ : pp. 279 : ill. 1920-22
Among the articles :—*A. M. M. Williamson*, Scaling the Coolin Peaks : *J. H. Bell*, From Garbhchoire to Glencoe : *J. A. Hadden*, The Lairig Dhru

- in calm : *J. McCoss*, Climbing Notes (on knots, etc.) : *J. R. Levack*, Rock-climbing on Clochnaben : *A. M. M. Williamson*, Climbing in Skye in Wet Weather : *R. Clarke*, Midwinter in Lairig Dhru : *J. McCoss*, Barns of Bynac in a Day : *D. P. Levack*, Ben More Assynt.
- Calngorm Club.** Rules. $6\frac{1}{2} \times 4\frac{1}{2}$: pp. 11. 1921
- D. u. Oe. A.-V. Donauland.** Nachrichten. Nr. 1-20. $12\frac{1}{2} \times 9\frac{1}{2}$. Aug. 1921-März. 1923
- — — Bestandverzeichnis der Bücherei : occurs in no. 7 of above.
- Among articles are :—*L. Patéra*, Der Weisseckkamm in der Radstädter Tauernkette : *H. Kaufmann*, Bergfahrten in d. Carnischen Voralpen : *O. Margulies*, Nebelfahrten im Cromertal, Cromertalsp., Kl. Seehorn, Kl. Litzner : *O. Gerhardt*, Grandes Jorasses.
- Fell and Rock Climbing Club.** Journal, vol. 6, no. 1. $8\frac{1}{2} \times 5\frac{1}{2}$: pp. 123 : plates. 1922
- Among the articles are :—*G. S. Bower*, Doe Crags and Climbs around Coniston (plates and routes marked) : *C. F. Holland*, The Dolomites : *G. A. Solly*, The Pendlebury Traverse : *R. J. Porter*, The Puig Mayor, Majorca : *H. G. Willink*, Pillar Rock, 1877.
- First ascents :—*F. Graham*, Lower Kern Knotts, West Climb : *D. G. Murray*, Coniston Doe Crags 'B' Buttress, 1822 : *W. T. Elmslie*, Bowfell Buttress Flat Crags : *H. S. Gross*, etc., Gillercombe Buttress, Borrowdale, 1922.
- Foren. til Ski-idraettens fremme.** Aarbok. $8\frac{1}{2} \times 5\frac{1}{2}$: pp. 183 : plates. 1922
- Among the articles is :—*F. Huitfeldt*, Skibinding, en historik og en kritik.
- Karpathen-Verein** (1918, formerly Ungar. karpathen-Verein) Turistik und Alpinismus. 1-3. Jahrgänge. $9\frac{1}{2} \times 6\frac{1}{2}$. 1918-22
- Among the contents are the following, 1918 :—*R. v. Komarnicki*, Die Tatra : *F. Hefty*, Aus. d. Vogelschau : *O. Friedmann*, Der Satan : *M. v. Jankovics*, Tofana di Rocas : *O. Friedmann*, Spitze Turm : *G. v. Scholtz*, Lomniczersp. 1921 :—*A. Grosz*, Auf höchster Zinne : *K. Zobeck*, Der Kletergarten der Pollauer Berge : *M. Schein*, Konzistatürme : *J. Györffy*, Pflanzenwelt d. Hohen Tatra : Tödliche Bergunfälle in d. Hohen Tatra 1888-1921. 1922 :—*E. Scheure*, Kleinsattelpass im Winter : Hüttenbauten in d. Hohen Tatra : *D. Reichart*, Bergbesteigungen in d. Hohen Tatra.
- New ascents :—*O. Friedmann*, Krivan N.W.-Wand 1916 : *A. Grosz*, Satan O.-Wand 1920 : *Z. Klemensiewicz*, Dénessp. N.-Wand 1910 : *G. A. Hefty*, Tatrasp. S.W.-Grat 1915 : *A. Grosz*, Gerlsdorfersp W.-Wand 1920 : *L. Langos*, Westersp. S.W. 1917 : *A. Grosz*, Gant W.-Wand, 1910 : *G. v. Komarnicki*, Gensensp. O.-Grat.
- New Winter Ascents :—*F. Förster*, Sparaj. 1916 : *W. Delmar*, Rovinkischarte 1916 : *G. v. Komarnicki*, Schwarzerzturm 1916.
- Ladies' Alpine Club.** Members, Expeditions, etc. 5×4 : pp. 27. 1923
- Midland Association of Mountaineers.** Accounts, report, books, etc., for 1922. 13×8 : 6 pp. typed. 1923
- Mountain Club of South Africa.** Annual, no. 25. $9\frac{1}{2} \times 6$: pp. 146 : plates. 1922
- Among the articles are :—*J. W. F.*, Jan Dutoit's Kloof : *F. Berrisford*, Groot Hoek Kloofand Peaks : *J. Cooke*, M'thlapetsi : *M. E. Smuts*, Coastal Mountain Ranges between Mossel Bay and Port Elizabeth : *K. Cameron*, Cedar Mountains of Clanwilliam : *Mrs. B. P. Clark*, Dauphiné Alps and Mt. Pelvoux.
- The Mountaineer.** Prospectus number. Mount Garibaldi Natural Park, B.C. Seventeenth Annual Outing, July 28-August 12, 1923. 10×7 : pp. 11 : ill. 1923
- The Mountaineers.** Vol. 15, no. 1. $11 \times 7\frac{1}{2}$: pp. 108 : ill. Dec. 1922
- Mount Adams, Mount St. Helens and the Goat Rocks.
- Nederlandsche Alpen-Vereeniging.** Statuten. 9×6 : pp. 4. 1903
- Oesterreichische Alpenzeitung.** Nr. 997-1008. $10\frac{1}{2} \times 7\frac{1}{2}$: pp. 244. 1922
- Among the articles :—*K. Prusik*, N.W.-Grat d. Plansp. : *M. Grosse*, W.-Grat d. Verpeilsp. : *P. Reuschel*, Aig. du Chardonnet : *R. Szalay*, N.-Grat

d. Gr. Venedigers: *A. Rössel*, Alphubel: *A. Deye*, Scharwänden: *F. Herdlicka*, Hochgotling N.-Wand: *F. Horn*, Auf die Hochalmisp.

First ascents:—*M. Pauli*, Säulenkopf O.-Wand 1920: *S. Walcher*, Stierlochkopf W.-Grat 1920: *S. Holztrattner*, Vord. Kammerlingh. N.O.-Wand 1920: *S. Walcher*, Verhupsp. S.W.-Wand 1920: *A. Roessel*, Möhrnerschneidsp. aus d. Floite 1920: *S. Walcher*, Collaz N.W.-Wand 1917: *R. Damberger*, Gr. Pyrgas N.-Grat 1921: *K. Prusik*, Gr. Bischofsmütze N.-Wand 1921: *R. Hamburger*, Böse Mauer S.-Grat 1920: *A. Roessel*, Östl. Faselfadsp. S.S.O.-Wand 1920: *H. Kies*, Vord. Ölgrubensp. N.O.-Grat 1921: Watzersp. N.-S. 1921: *H. Netsch*, Rofelewand W.-Wand 1919: *R. Szalay*, Mittl. Fluchth. W.-Wand 1921; Patteriol N.W.: Pfeiler 1921: *A. Horeschowsky*, Kabling S.-Grat 1922: *F. Kolb*, Gr. Ödstein 1921: Hochtör ü. d. Steinkargrat 1921: *H. Püchler*, Bärnkarmauer N.-Grat 1921: *F. Rigele*, Schönfeldsp. O.-Wand 1921: *P. Huber*, Alhorn O.-Wand 1921: *F. Rigele*, Sommerstein S.W.-Wand 1921: *K. Winzig*, Hoher Nock N.O. Grat 1921: *K. Prusik*, Plansp. N.-Wand 1922: *R. Zeuner*, Plattenkopf v. N. 1921: *K. Baumgartner*, Fusstein N.W.-Wand 1921: *K. Sporrer*, Freiwand-Freiwandeck 1921.

Oxford and Cambridge Mountaineering. $8\frac{1}{2} \times 5\frac{1}{2}$: pp. 74: plates. 1922

The articles are:—*A. D. Godley*, Sub Rosa: *H. Mackintosh*, Rock Climbing in Skye: *L. A. Ellwood*, Courses Collectives: *H. R. C. Carr*, Concerning Gully Climbs: *T. G. Bonney*, Memories of a Geologist: *A. E. Storr*, Some Impressions of the Graians: *J. H. Wolfenden*, A Club meet in the Graians; Some Oxford Roofs, a Confession: *L. A. Ellwood*, Cambridge University Mountaineering Club: *J. H. Wolfenden*, Oxford University Mountaineering Club: *H. B.*, The Zmutt ridge.

Peñalara. *Rivista de alpinismo.* Año 9. num. 97–108. $9 \times 6\frac{1}{2}$: pp. 266: ill. 1922

Among contents:—pp. 99–110, is the Indice alfabético de los cien primeros números: p. 122, a meeting of 13 Spanish Alpine Societies: pp. 112–21, Ascent of El Valeta, with illust.: pp. 128–9, First Spanish ascent of Aneto: pp. 157–61, Rules of Federacion española de Alpinismo.

The Rucksack Club. Rules, Members, etc. $5 \times 3\frac{1}{2}$: pp. 22. 1923

S.A.C. Echo des alpes. 58e année. $9 \times 5\frac{1}{2}$: pp. 382: ill. 1922

Among the articles are:—*E. Gos*, L'arête de l'Argentine: *L. Spiro*, Les anglais dans les alpes: *C. P. Topali*, L'arête nord de la Pte de Salles: *G. A. Boret*, Les cordes alpines: *M. Morel*, Traversée du Lyskamm: *de Bouville*, Tentative d'ascension à l'Aig. Verte en 1856 (reprint Journ. de Genève 27 April 1856): *J. Cooke Smith*, Ascensions et cols dans le groupe des Dents Blanches de Champéry: *O. Thiel*, Traversée de la Südlenzsp. par le mauvais temps: *A. Morand*, tr Le Grépon-Les Drus; Chanrion-Zermatt: *H. R. C. Carr*, l'Alpinisme en Gr. Bretagne: *A. Truan*, tr Grand-Combin Valsorey-Panossière.

First ascents:—*A. Martin*, Cime de l'Est, S. face: *E. R. Blanchet*, Cimono di Campo secco E. arête: *C. Köella*, 1874, tr Col de la Dent Jaune: Dent de Bonabeau by N.

— **Alpina.** 30. Jahrg. $10 \times 7\frac{1}{2}$: pp. 334: ill. 1922

Among the articles are:—*W. v. Bergen*, Durchs Lohrergebiet: *T. Reichstein*, Glärmisch N.-Wand: *G. Euringer*, Oetler-Gruppe: *O. Hug*, Am Doldenhorn: *R. v. Tscharnner*, Im Mont Blanc Massiv, 1921: *H. Müller*, l'Aig. Jos Croux: *P. Montandon*: Topographie d. Bietschhorngebietes: *P. v. Schumacher*, Ueberschreitung d. Meije: *H. Lauper*, Bietschhorn-Südwand: *A. Graber*, Sonneg Wichel u. Wichelschyn: *G. Thoma*, Quellgebiet d. Dora Baltea.

New ascents, 1921:—*S. Schmid*, Hockenh. fr S.: *P. Schmidt*, etc., Ulrichsp. W. face: *P. E. G. Tonella*, Breitstock, Zappportgrat, Zapporth.: *G. and B. Gugliermi*, M. Blanc, Innominata arête; Col Maudit fr Rifugio Torino: *J. Favard*, tr. Col d. Nantillous fr Gl. d'Envers de Blaitière: *M. Schwartz*, Pigne d'Arolla E. arête of N. face: *E. R. Blanchet*, Stecknadelp. var. S.E. face; Platt. desc. N.E. arête, alone; Inner Rothern W. arête; Saaser

- Trifhorn by E.: Kanzelti, E. face, S. arête: Nollenh. N.E. arête: P. Borchers and P. Reuschel, Spalihorn W. and N.: M. Liniger, Fründenh. W. arête; Grosshorn N.W. arête; Mönch N. face: E. W. Burger, Galenstock E. face: R. Winterhalter, Wichelh. S. pk.: O. K. Hug, Claridenstock N. face: F. Zwicky, Bocktschlingel fr W. and tr: N. S. Finzi, Piz Bacone S. arête: H. Frei, Piz Pisoc E. arête: E. Gretschmann, Sulzfluh. S. face.
- S.A.C. Führer d. Walliser Alpen.** Bd. 2. Vom Col de Collon bis zum Teodulpass. $6\frac{1}{2} \times 4$: pp. 380: ill. Zürich, Rascher, 1921
- **Clubführer durch die Graubündner-Alpen**, 6×4 . Schuler, Chur. Bd. 2. Bündner Oberland u. Rhein waldgebiet, pp. 332, ill. 1918
- Bd. 3. Calanca, Misox, Avers; pp. 248: ill. 1921
- Bd. 4. Südl. Bergellerberge u. Mte Disgrazia; pp. 182, ill. 1922
- **M. Kurz.** Guide d. Alpes valaisannes, vol. 4. Du Col du Simplon au Col de la Furka. $6\frac{1}{2} \times 4$: pp. xxvii, 242: ill. 1920
- Katalog der Zentralstelle f. alpine Projektionsbilder. $8 \times 5\frac{1}{4}$: Bern. 1, 1915: 2, 1918: 3, 1911: 4, 1917: pp. 40, 40, 55, 54.
- **Basel.** Jahresbericht für 1922. Beilage, Streifereien in d. Gebirgen des Oberhasli, 1848 u. 1859, v. Joh. Rud. Schaub. $9 \times 6\frac{1}{4}$: pp. 71: 2 plates. 1923
- The Beilage contains the following printed from Schaub's MS.:—His ascent, the first of the Nördl. Gelmerlimmi: alone, the second ascent of the Ritzlihorn by the W. face and the N.W. arête: both in 1848. Also his ascent, the first, of the Maasplankstock fr the W. by the Trift glacier in 1859. A portrait of Schaub is given.
- **Chaux-de-Fonds.** Bulletin annuel no 31. $7\frac{3}{4} \times 5$: pp. 119: plate. 1923
- This contains:—L. S., Au Wildstrubel: B. Hofmänner, Paro national suisse: G. G., Everest
- **Diablerets.** Les 40 premières années. Notice historique par E. Busset. $7\frac{3}{4} \times 5$: pp. 98: plates. Lausanne, Imprim. réunies 1913
- **Prättigau.** Theoretical and practical course of instruction in mountaineering for beginners and advanced climbers, 25 July to 4 August 1923. Prospectus
- This includes instruction in outfit, first aid, maps, use of rope in practice on rock and ice.
- **Sections romandes.** Chansonnier. 3me édition. $6\frac{1}{2} \times 4\frac{1}{4}$: pp. 88. Lausanne, Duvoisin 1909
- Sci Club Valtournanche.** Valtournanche. $6\frac{3}{4} \times 4\frac{1}{2}$: pp. 35: plates. 1922
- One plate is portraits of J. and P. Macquinez, J. A. Carrel, J. B. Bich.
- Soc. Escurs. Milanese.** Le Prealpi, anno 21. $9\frac{3}{4} \times 6\frac{3}{4}$: pp. 250: ill. 1922
- The articles are chiefly on climbs in the Dolomites. In the Oct. no. is a reproduction of an unusual print of Saussure on Mt. Blanc in 1787—the origin of the print not given.
- Svenska Turistfören. Årsskrift.** $8\frac{1}{2} \times 5\frac{1}{2}$: pp. 398: plates. 1923
- Among other articles, this contains:—H. N. Pallin, Till Sarektjakkos Sydtopp: C. T. Mörner, Kebnekaise-bestigning via Ostra väggen.
- Atlas över Sverige. Del. 1.
- Ungar. Karpathen-Verein.** Jahrbücher 43 u. 44. 9×6 : 151: 114. 1916, 1917
- Those are the last numbers published. In 1918 the Club became the Karpathenverein and issued a monthly paper, Turistik und Alpinismus, q.v.
- Among the articles are:—A. Grosz, Lawinverhältnisse in d. Hohen Tatra: Auf dem Grat zwischen d. Kohlbachtälern: Erste Durchkletterung d. Südwand d. Markasitturmes.
- Yorkshire Ramblers' Club.** Annual Report, etc. $8\frac{1}{2} \times 5\frac{1}{2}$: pp. 17. 1921–2
- Journal, vol. 5, no. 13. 9×6 : pp. 30: plates. 1922
- Contents:—C. D. Frankland, Novel tactics on central buttress Scawfell: E. E. Roberts, Mountain ramparts of Saas: A. Bonner, Swildon's Hole and the Mendips: E. E. Roberts: Gaping Ghyll by the main shaft; Goyden Pot, Nidderdale.

New Works.

- Aeppli, Aug.** Geographische Bibliographie der Schweiz für das Jahr 1919. SA Mitt. Geogr.-Ethnogr. Ges. Zürich Bd. 20. 9 × 6: pp. 75-101. 1920
 — für die Jahre 1919-21. In same, Bd. 21. 9 × 6: pp. 60-89. 1922
- Allix, André.** Nivation et sols polygonaux dans les alpes françaises. In La Géographie, Paris, t. 39, no. 4. 10 × 6½: pp. 431-8: ill. Avril 1923
- Alpine Sport Gazette.** Weekly. No. 1. 9½ × 7¼: pp. 22: ill. Dec. 4, 1922
- Austria.** A journey through a picturesque country. 9½ × 6½: pp. 78: maps, plates. Vienna (1922)
- Backhouse, Edward.** In memoriam. In The Friend, vol. 62, no. 37: portrait. London, Sept. 15, 1922
- Baker, Ernest A.** The highlands with rope and rucksack. 8½ × 5½: pp. 258: plates. London, Witherby, 1923. 12/6
- Baud-Bovy, D.** Première ascension 1919 du plus haut sommet de l'Olympe. In La Géographie, Paris, t. 39, no. 1. 10 × 6½: pp. 89-90. Janvier 1922
- Bent, Allen H.** Desert colours and mountain heights. In Bull. Geogr. Soc. Philad. vol. 20, no. 4. 10 × 6½: pp. 142-146. Oct. 1922
 On some Californian mountains.
- de Bissy, Commandant.** Le Col de Saint-Michel vrai passage des Romains à travers la Montagne d'Aiguebelette. 8 × 5½: pp. 47: maps. Chambéry, Imprim. réunies 1921
 This contains interesting quotations from travellers' works from 1518 onwards.
- Blodig, Karl.** Die Buingruppe. In Deutsche Alpenz. Jahrg. 18. hft 9. 12 × 9: pp. 195-9: ill. 1922
- Boccardi, Renzo.** I verdi. Cinquant'anni di storia alpina, 1872-1922. 9½ × 6½: pp. 134: ill. Roma, Alfieri & Lacroix (1922)
 An interesting military work, largely devoted to the mountain campaign of the last war. Contains also the songs of the Alpini.
- British Ski Year-Book**, vol. 1, no. 3. 9 × 5½: pp. 499: plates. 1922
 Among other articles this contains:—*N. E. Odell*, Ski-ing and sledging in Spitsbergen: *H. de Watteville*, A Winter in Tirol: *E. C. Pery*, Oberland traverse in May: *B. Binyon*, Accident on Piz Muraigl (L. M. Keep killed, Jan. 1922).
- Brunies, S.** Naturschutzbestrebungen in alter und neuer Zeit. Schweiz. Jugendbücherei f. Naturschutz. 8 × 5: pp. 44. Basel, Schwabe (c. 1922)
 — A travers le Parc National Suisse. Guide pour les jeunes gens. 8 × 5: pp. 64: ill. (c. 1922)
 — Gite attraverso il Parc. pp. 64: ill.
 — Cuorsas tras il Parc. pp. 54: ill.
 — Excursiuns tres il Parc. pp. 57: ill.
 — Il Parc nazional sün terra ladina. pp. 48: ill.
- Bibliothèque de la jeunesse suisse pour la protection de la nature.
 The above are some of the numerous publications of the Swiss Society for protection of nature, issued for young people, which has its office in Bâle.
- Bryce, Viscount.** Memories of travel. 8½ × 5½: pp. xii, 300. London, Macmillan, 1923
 Contents:—Iceland, 1872: Tatra, 1878: Suvaroff's alpine campaign: N. America, 1921: Altai, 1913.
- Calzada, J. Fresno de la.** Qué es la Montaña? Santander, Libr. moderna (1922)
- de Cardonne, Pierre.** Le Retour Eternel. 6½ × 5: pp. 147. Chambéry, Dardel (1922)
 A novel in the Alpine parts of Savoy.
- Coolidge, W. A. B.** My Alpine Scrapbook. 31, The Valley of Avers.
 — 32, Position and names of the Cima di Jazzi.
 — 33, Names of the Weisshorn.
 — 36, Half a week in the Rhätikon.
 — 37, The History of the Eggishorn up to 1856.
 The above are in Engl. Herald Abroad.

Nov. 1922-April 1923

- Davis, John W.** The unguarded boundary, United States. In Geogr. Rev., New York, vol. 12, no. 4. 10 × 7: pp. 585-91: plates. Oct. 1922
- Deutsche Alpenzeitung.** Jahrg. 18. 12 × 9: pp. 287: ill. 1922
Among the articles are:—*Yukkoh Maki*, I. Best d. Eigers ü. d. Mittellegigrat: *W. Lehner*, Um die Guglia di Brenta: *E. Hofmann*, Im Parzinn: *R. Liefmann*, Überschreitung d. Weissshorns: *K. Blodig*, Buin gruppe: *O. Zinniker*, Allein aufs Lauteraarhorn: *H. Kees*, Aus d. Kaunergrat.
- Dreyer, A.** Lsg. v. Bergsteigerbrevier. Eine Blütenlese aus den Werken Alpinen Dichtkunst und Erfahrungsweisheit. 7 × 4½: pp. 156, plates. M. 500. München, Parcus (1922)
- Kleiner Ratgeber für die neuere alpine Literatur. Veröffentl. Ver. Freunde d. A. V.-Bücherei I. M. 230. München, Parcus (1923)
- Eschmann, Ernst.** Gian Caprez. Eine Geschichte aus dem Engadin. 8 × 5½: pp. 261: ill. Zürich, Orell Füssli, 1923
- Mount Everest, Climbing.** Kinematograph lecture. 10 × 7½: pp. 12: ill. London, 1922
- Mount Everest Expedition of 1922.** In Geogr. Journ., London, vol. 60, no. 60. 9½ × 6: pp. 385-424: maps, plates. December 1922
Contains:—*C. G. Bruce*, Darjeeling to Rongbuk Glacier base camp: *E. L. Strutt*, East Rongbuk Glacier: *G. L. Mallory*, First High Climb: *G. I. Finch*, Second High Climb. Everest photographs.
- Expédition, 1922. Séance 15 déc. 1922. In La Géographie, Paris, t. 39, no. 1. 10 × 6½: pp. 90-93. Janvier 1923
- Ferrand, H.** Cabanes, Refuges et Chalets dans les Alpes du Dauphiné et de la Savoie. 8½ × 5½: pp. 30. Paris, Expansion scient. française, 1921
- La Vallée d'Aoste dans la Cartographie ancienne. Ex. Augusta Praetoria, nos. 6-8. 9½ × 6½: pp. 13: plates of maps. 1922
- Finch, G. I.** Equipment for high altitude climbing, with special reference to climbing Mount Everest. In Geogr. Journ., London, vol. 61, no. 3. 9½ × 6: pp. 194-207. March 1923
- Flaig, Walther.** Im Kampf um Tschomo-lungma den Gipfel der Erde. Der Himalaya und sein höchster Gipfel Mount Everest. 8 × 5½: pp. 76: ill. Stuttgart, Franck (1923)
- Burgen an der Grenze. In Deutsche Alpenz. Jahrg. 18, Heft 9. 12 × 9: pp. 203-13: plates. 1922
- Frazer, R. A.** Topographical work of the Oxford University Expedition to Spitsbergen. In Geogr. Jour., vol. 6, no. 5. 9½ × 6½: pp. 321-36: plates. Nov. 1922
- Freshfield, Douglas W.** Below the snow line. 8½ × 5½: pp. vii, 270: maps. London, etc., Constable (1923). 18/-
Contents:—Maritime Alps: Midsummer in Corsica: Pania della Croce, Gran sasso d'Italia: Classical Climbs: Dinaric Alps: Kabyle Highlands, Behind the Bernina, Bergamasque Alps, By-Corners in Savoy, By-ways in Japan, Mountains of the Moon.
- The articles, except one, are altered reprints from the 'A.J.'
- Frödin, John.** Voyage d'études géographiques dans le Maroc occidental. In La Géographie, Paris, t. 39, no. 2. 10 × 6½: pp. 180-190: ill. 1923
- Geographical Journal.** Vol. 60. 9½ × 6: pp. viii, 563: maps, plates. July-December 1922
- A. F. R. Wollaston*, Natural history of S.E. Tibet: Mount Everest Expedition, 1922: *A. M. Heron*, Rocks of Mt. Everest; Photographs of Mt. Everest: *H. L. Shuttleworth*, Border countries of Punjab Himalayas.
- Gex, F.** Les avalanches du rebord subalpin de la Combe de Savoie. In La Géographie, Paris, t. 39, no. 1-2. 10 × 6½: pp. 36-52, 165-180: ill. Janvier-Février 1923
- Gillmann, C.** An ascent of Kilimanjaro. In Geogr. Journ., vol. 61, no. 1. 9½ × 6: pp. 1-27: illustrations and map. January 1923
- An ascent in Oct. 1921, by C. Dundas, P. Mason, F. J. Miller, and C. Gillmann.

- Girardin, P.** Henri Vallot. In Memoriam. In *La Géographie*, Paris, t. 39, no. 2. 10 × 6½: pp. 231-6. Février 1923
- Godefroy, R.** Sous la tiare. L'alpiniste Achille Ratti. Reprint on large paper from *Rev. Alp.* no. 2. 10 × 6½: pp. 11. 1922
- Graubünden.** Winter in Graubünden. 6½ × 4½: pp. 33: ill. Davos 1922
- Summer in Graubünden. 6½ × 4½: pp. 29: ill. 1920
- Gregory, J. W. and C. J.** The alps of Chinese Tibet and their geographical relations. In *Geogr. Journ.*, London, vol. 61, no. 3. 9½ × 6: pp. 153-179. March 1923
- Hall, Rich. Watson.** Some Cumbrian climbs and equipment. 7½ × 4½: pp. 35. Cockermouth, 1923

Kindly presented by the author.

- Hammer, Wm.** Geologischer Führer durch die Westtiroler Zentralalpen. Geolog. Führer 22. 6 × 4: pp. viii, 150: ill. Berlin, Borntraeeger, 1922
- Hedin, Sven.** Southern Tibet. 11 × 8½: plates: numerous maps and atlas separate. Stockholm General Staff, 1922

Vol. 4: Karakorum and Chang-Tang, pp. xii, 428.

Vol. 6: N. Ekholm, Meteorolog. Beobachtungen.

—: Atlas, 2 vols., folio.

Vol. 7: History of Exploration in the Karakorum Mountains, pp. xii, 605.

Vol. 8: The Ts'ung-Ling Mountain, by Sven Hedin and Albert Herrmann.

Die Westländer in d. chinesischen Kartographie: v. Alb. Herrmann. Zwei osttürkische MS.-Karten: v. Alb. Herrmann. Chines. Umschreibungen v. älteren geogr. Namen: v. A. Herrmann. pp. xvi, 456.

Vol. 9: Journeys in eastern Pamir, S. Hedin: Osttürk. Namenliste, A. v. Lecoq: Geologie v. Ost-Pamir v. Bron Askund: Eine chines. Beschreibung v. Tibet: Das Goldstrom v. Erich Hämisch: General Index.

- Heim, Albert.** Geolog. Nachlese. Nr. 27. Über die Gipfelflur der Alpen. Ex Vierteljährl. Naturf. Ger. Zürich. Bd. 67. 9½ × 6½: pp. 45-66. 1922

- Pro Helvetia.** Swiss national review for travels and sport. Winter and spring season 1922-3. 12 × 9½: pp. 32: ill. Berne, Hallwag, 1922

- Hirst, John:** Collected and edited by, for the Rucksack Club. The songs of the mountaineers. 7 × 5: pp. 124. Manchester, Corner (1922). 3/6
- Many of the songs can be had separately with music, 2/- each.

- Holtedah, Olaf.** Novaya Zemlya. In *Geogr. Rev.* New York, vol. 12, no. 4. 10 × 7: pp. 521-31: plates. Oct. 1922

- Hotels.** Official guide to Swiss Hotels. 1921

- Howard-Bury, C. K.** A la conquête du Mont-Everest. Traduction par G. Moreau. Préface du Prince Roland Bonaparte. 9 × 5½: pp. 415: map, plates. Paris, Payot, 1923

Presented by the translator.

- Inaka,** or reminiscences of Rokkusan and other rocks. Collected and compiled by the Bell Goat. 16 vols. 9 × 6½: numerous ill. Kobe, 1915-22
- These were very kindly presented to the Library by the editor, Mr. H. E. Daunt.

- India.** Records of the Survey of India, vol. 15. Annual reports of parties and offices 1919-20. 13 × 8. Dehra Dun, 1921

This contains pp. 107-113, map, plates: H. R. Morshead, Report of the Expedition to Kamet, 1920.

The first attempt was in June 1855, by Schlagintweits, prob. E. Ibi Gamin; then I. S. Pocock in 1875 reached 22,040 ft.: reconnoitred in 1907 by C. G. Bruce, T. G. Longstaff, A. L. Mumm: attempts in 1910, 1912, 1913 by C. F. Meade; attempt twice by A. Slingsby: reconnoitred in 1911 by A. M. Kellas; and Major Morshead's and A. M. Kellas' attempt in 1914, reaching Meade's Col.

The work also contains pp. 115-118, map: K. Mason, Note on topography of Nun Kun.

The heights given are:—Nun, 23,410; Kun, 23,250; Pinnacle Peak, 22,810; Snowy Peak, 19,830.

Inge, W. R. Outspoken essays. 2nd series. 1922
pp. 1-2: 'I began this essay on the terrace in front of an hotel at Mürren. A lonely holiday among the grandest scenes of nature is a favourable opportunity for setting one's ideas in order. . . . A Swiss alp, 5000 ft. above the sea, and in full view of a majestic range of snow peaks and glaciers, opens avenues of communication with the *magnalia Dei* which are less easy to maintain amid the dark and grimy surroundings of my London home.'

Compare with this Tagore's opposite experience quoted in 'A.J.' xxxii. 218-9.

Jeffers, Le Roy. The call of the mountains. Rambles among the mountains and canyons of the United States and Canada. $9\frac{1}{2} \times 6$: pp. xv, 282: plates. New York, Dodd Mead, 1922

— Another edition. $9\frac{1}{2} \times 6\frac{1}{2}$: pp. xv, 282: plates.

London, Fisher Unwin, 1923. 18/-

Kara-koram. Explorations in the eastern Kara-koram and the Upper Yarkand Valley. Narrative report (by Major H. Wood) of the Survey of India detachment with the De Filippi scientific expedition 1914. Published by order of the Government of India. $13 \times 8\frac{1}{2}$: pp. iii, 42: plates, map.

Dehra Dun, Trig.-Survey, 1922. 6/-

On pp. 32-7 are short quotations from the works of various travellers from 1543 onwards.

Kees, Hermann. Aus dem Kaunergrat. In Deutsche Alpenz. Jahrg. 18, Hft. 10. 12×9 : pp. 225-32. 1922

Lewin, W. H. Climbing notes. In 'The Individualist.' $7\frac{1}{2} \times 5$: pp. 23-32. January 1923

Lötschberg. Bern-Lötschberg-Simplon. Bernese Alpine Railway. Chemin de fer des Alpes bernoises, Berner Alpen-Bahn. Illustrated guide. $7 \times 4\frac{1}{2}$: pp. 44: ill. Berne, Polygraphic Co. (1921)

— Chemin de fer d. Alpes bernoises. $7\frac{1}{2} \times 4\frac{1}{2}$: pp. 56: ill.

Berne, Bühler & Werder (1922)

— Berner Alpen-Bahn. $7\frac{1}{2} \times 4\frac{1}{2}$: pp. 40: map, ill.

Bern-Bümpliz, Benteli (1922)

Machatschek, Fritz. Morphologische Untersuchungen in den Salzburger Kalkalpen. Ostalpine Formenstudien hsg v. Dr. Fr. Leyden. Abt. 1, Hft. 4. $10 \times 6\frac{1}{2}$: pp. 304: ill. Berlin, Borntraeger, 1922. 15/-

Mannering, G. E. Six weeks in Switzerland with some mountain ascents. $9\frac{1}{2} \times 6\frac{1}{2}$: pp. 17. Christchurch, N.Z., Christchurch Press (1922)

Ascents of Mt. Dolent, Dent du Midi, Matterhorn.

Mason, Kenneth. Routes in the Western Himālaya, Kashmīr, etc., with which are included Montgomerie's routes revised and re-arranged. Vol. 1, Pūnch, Kashmīr and Ladākḥ. Survey of India. $9\frac{1}{2} \times 6\frac{1}{2}$: pp. 295: maps.

Dehra Dun, 1922. 12/-

Methuen, A. An alpine ABC and list of easy rock plants. $6 \times 3\frac{1}{2}$: pp. 35.

London, Methuen (1922)

Moriggl, Josef. Von Hütte zu Hütte. Führer zu den Schutzhütten der Ostalpen. Bde. 1, 2, u. 3, unveränderte Aufl. 6×4 : pp. xii, 284: viii, 239. Leipzig, Hirscl, 1922

Mumm, A. L. The Alpine Club register 1857-63. $8\frac{1}{2} \times 5\frac{1}{2}$: pp. viii, 391.

London, Arnold, 1923

Neame, P. An alpine mirage. *Times*, May 11, 1923.

Mr. F. S. Smythe and I were climbing the Finsteraarhorn in the Bernese Oberland on May 2, a day of perfect weather and extremely good visibility. At an altitude of about 13,800 ft. we paused to admire the panorama of mountains. Suddenly at 11.55 A.M. the image of a ship appeared in the sky just to the east of the Eiger peak, floating in a blue shimmer just beyond the visible horizon. This lasted for a minute or so, and then vanished. Very soon after a line of five ships appeared further east, funnels and masts clearly distinguishable. This image lasted for some fifteen minutes, and varied in its clearness from time to time. The ships appeared, of course, greatly exaggerated in size, and were right way up, not inverted. The direction of the five ships was in a line from Finsteraarhorn through Grindelwald. This brings their position on the nearest sea to approximately the eastern exit of the English Channel into the North Sea, a distance of some 400 miles.

Both Mr. Smythe and myself saw the ships so clearly that we could not have mistaken any cloud effect for ships.

New Zealand. Tourist Resorts Department, Report 1922.

Little was done in the way of high climbing in 1921-2. The following ascents were made:—*A. Graves, Miss J. A. Graves, Miss Thornton, Mt. Montgomery; Mr. A. and Miss J. Graves, Mt. Sealey; Miss Theomin, Mt. Derby, Monga Ma; Miss Theomin, C. Buchanan, Anzac Peaks; C. Buchanan, Footstool.*

Odell, N. E. Geological notes from the Oxford expedition to Spitsbergen. In *Geogr. Journ.*, London, vol. 60, no. 6. $9\frac{1}{2} \times 6$: pp. 424-26.

December 1922

Oehninger, C. J. Die Alpenflora. 5. Aufl. $8\frac{1}{2} \times 5\frac{1}{2}$: pp. 41: 24 col. plates. Münster, Westf., Selbstverlag, 1922

P.L.M. Railway and Sports. $8 \times 5\frac{1}{2}$: pp. 48: ill. 1923

Payer, Julius. Julius Payer's Bergfahrten. Erschliessungsfahrten in den Ortler-, Adamello- und Presanella-Alpen (1864-1868). Hsg v. Wm. Lehner. $10\frac{1}{2} \times 7\frac{1}{2}$: pp. vii, 190: portr., plates. Regensburg, Manz, 1920

The ascents were in 1863-8. Some of the illustrations are from Payer's drawings. The expeditions include—1863, Gr. Glockner: 1864, Dosson di Genova, Corno Lagoscuro, Corno Bianco, Adamello, Presanella: 1865, Suldensp., Ortler, Königssp., Cevedalesp.: 1866, Tuckettsp., Schneeglocke, Mte. Zebbru, Cristallosp.: 1867, Corno Vioz, Cima Ganani, Rotsap., Pta Cadini, Mte Giumella, Mte Tresero: 1868, Pedersp., Zufallsp., Caré Alto, Mte Pisgana, Cima Ceren.

Pereira, George. Journey to Lhasa. In *Geogr. Journ.*, London, vol. 61, no. 2. $9\frac{1}{2} \times 6$: pp. 124-130: sketch map. Feb. 1923

Perret, Robert. Notice sur la Carte au 20,000e de la Vallée de Sales et du Cercle des Fonts (Alpes calcaires de Faucigny). $11\frac{1}{2} \times 9$: pp. viii, 83: map, plates. Paris, Barrere, 1922

— La topographie privée en France. In *Le Correspondant*, Paris: 94 année, no. 1443. $9\frac{1}{2} \times 6\frac{1}{2}$: pp. 436-462. 10 nov. 1922

Notes on Schrader, Viollet le Duc (Mont Blanc), Duhamel (Pelvoux), Kurz (Mont Blanc), H. Vallot (Mont Blanc), Helbronner (Alpes franç.), etc.

Pope Pius XI. Climbs on alpine peaks. By Abate Achille Ratti, mountaineer (now Pope Pius XI). Translated by J. E. C. Eaton. With a Foreword by Douglas Freshfield, and an Introduction by the Right Rev. L. C. Casartelli. $8\frac{1}{2} \times 5\frac{1}{2}$: pp. 136: portrait, plates.

London, Fisher Unwin (1923). 8/6

This contains translations of articles from the C.A.I. Bollettino and Rivista:—Across Mte Rosa, 1889: Matterhorn fr Zermatt, 1889: Mont Blanc by the Rocher, 1890.

— Achille Ratti. Ascensions. Mont Rose—Cervin—Mont Blanc. Traduit de l'Italien par Emile Gaillard. $8\frac{1}{2} \times 6\frac{1}{2}$: pp. 119: plates.

Chambéry, Dardel (1922)

This is no. 1 of 500 copies. Presented by M. Gaillard.

— His Holiness Pope Pius XI. A pen portrait by his Eminence Cardinal Gasquet, and the Pope as alpine climber. Translated from an article written by himself, with a portrait and 28 illustrations reprinted from the Review of Reviews. $9 \times 7\frac{1}{2}$: pp. 30: plates.

London, O'Connor, 1922. 7/6

This is no. 123 of 500 printed for sale.

Prescott, E. E. The Grampians, Victoria. $9\frac{1}{2} \times 7\frac{1}{2}$: pp. 2: 28 plates. Melbourne, Whitcome, 1922

Rabot, C. Une expédition au plus haut sommet de la terre, Everest. In *l'Illustration*, Paris, no. 4104. 16×12 : pp. 395-406: map, plates.

— L'Expédition de l'Everest. In *l'Illustration*, no. 4108. pp. 492-3: ill. 29 oct. 1921

— L'Expédition de l'Everest. In *l'Illustration*, no. 4108. pp. 492-3: ill. 26 nov. 1921

Rocoffort, L. Le Secret de l'Avalanche. $7\frac{1}{2} \times 5$: pp. 119. Pysin, Desvigne, 1922. Fr. 3.50

Roessel, Albin. Sportliches Bergsteigen mit 36 Abbildungen von Bruno Hess. $5\frac{1}{2} \times 3\frac{1}{2}$: pp. 95: ill. Wien, Selbstverlag, 1922

Ruwenzori. The Tydsch. Kon. Nederl. Aardrijks. Gen., Sept. 1920 reports. W. Younger and Clifford Henry on Dec. 27, 1919, reached the second highest point: 150 ft. below the highest summit.

Saint-Saud, Comte de. Monographie des Picos de Europa. Etudes et voyages. 10 × 6½: pp. xiii, 272: ill. Paris, Barrère, 1922

— — — Cartes dressées par le Capitaine L. Maury. Separate atlas.

Schätz, Jos. Jul. Südtirol vom Brenner bis Salurn. Ein Buch vom Menschen, Bergen und der Schönheit des Landes. 12½ × 9½: pp. 95: plates. Bozen u. München: Amonn, 1923

This has numerous good plates.

Schwartz, Myrtel. Drei Giganten des Hochgebirges. Meine Erinnerungen an deren Besteigung. 8½ × 5½: pp. 98: plates. Basel, Basler Druck-Verlags-Anst. 1921

Ascents of Monte Rosa, Matterhorn, Popocatepetl.

Sinclair, Jos. H., and Theron Wasson. Explorations in eastern Ecuador. In Geogr. Rev., New York, vol. 13, no. 2. 10 × 7: pp. 190-210: map, plates. April 1923

The plates include Mts. Sumaco and Sangay.

Ski. Jahrb. d. Schweiz. Ski-Verbandes. 16-17. Jahrg. 8½ × 5½: pp. 128: 154: plates. 1921, 1922

Contents:—1921. *O. Hug*, Die Mechanik d. Gletscher: *W. Knoll*, Aertzliche Untersuchungen v. Skirennfahren 1921: *A. Zarn*, Abfahrt v. Mattlischorn: *G. Walty*, Skifahrt z. Arlberg: *O. Gurtner*, Lauberhorn: *A. Graber*, Im Gebiete d. Alb. Heinhütte.

1922. *O. Hug*, Alpinismus u. Skilauf: *W. Knoll*, Praktische Schlussfolgerungen aus d. ärztlichen Untersuchungen: *M. Kurz*, Tentatives et premières ascensions hivernales aux plus hauts sommets valaisans:—Gr. Combin 1903-1916: Dent Blanche 1893-1911: Ober Gabelhorn 1893-1920: Zinal Rothorn 1911-1920: Bieshorn 1910-1919: Dent d'Hérens 1910-1920: Matterhorn 1862-1920: Breith. 1899: Pollux 1913, 1917: Castor 1913, 1917: Lyzkamm 1885-1915: Mte Rosa 1883-1912: Strahlhorn 1901-1913: Rimpfischhorn 1893-1915: Allalinh. 1907-1915: Alphubel 1910-1915: Täschhorn 1920: Dom 1894-1917: Lenzsp. 1918: Stecknadelh. 1921: Weismiess 1910: Laquinh. 1918: Fletschh. 1914 (short accounts of those various ascents): *H. Laufer*, Hinter Felschyn u. Mütterlishorn: *K. Danegger*, Im rechtsufrigen Thunerseegebiete.

Sports, Winter. Gamage's booklet. 9½ × 6½: pp. 40: ill. 1922-3
— Sports d'hiver. Paul Gleize. 9½ × 6½: pp. 48: ill. 1922

Steinitzer, Alfred. Das Land Tirol. Geschichtliche, kultur- u. kunstgeschichtliche Wanderungen. 6½ × 4½: pp. xvi, 610: ill. Innsbruck, Wagner, 1922
A most interesting vol. on history, art and architecture.

Strachey, J. St. L. Adventure of living. London, Hodder & Stoughton, 1922

pp. 485-6. As a young man I travelled in sledges over most of the alpine passes in the winter, for owing to my uncle John Symonds being one of the discoverers of the high alps in winter, I was early so to speak in the snowfield.

I crossed the Splügen by day in winter and by moonlight in summer. I crossed the St. Gothard in a vetturino carriage. I have crossed the Simplon and I have crossed the Bernina, and all the other passes of the Grisons in the snow in mid-winter many times. For those who like, as I do, sharp cold and ardent sunlight, there is nothing more luxurious, and if one can see or hear, as sometimes happens, an avalanche really close without getting into it, a pleasant spice of danger is added. But I do not love the alps merely in winter. Though no expert climber, I was fond of the mountains to the point of fanaticism, and though I never got higher than 11,000 ft. or little over, I had the extremely interesting experience of falling into a crevasse. Fortunately I was well held by the rope against the white edge of the abyss while my legs kicked freely in the illimitable inane.

Is there anything in the world like being called in the grey dawn by the man with the axe and the rope? Can anything equal that succession of scenes? The alpine village in the sleepy silence, the pastures and the cultivated land, the inevitable little bridge over the inevitable little stream, then the belt of pines, then the zone of flowers, best and gayest of all gardens, and last the star gentians and the eternal snows? A holiday heart, at years of age, a friend, a book of poetry, and a packet of food in one's pocket!—truly if there is a paradise, it is here.

Swiss Travel Almanac. Edited by the Swiss Tourist Information Office.
Summer Season 1922. $7\frac{1}{2} \times 5$: pp. 111: plates. 1922

— Winter 1922-3. 8×5 : pp. 111: plates. Olten, Walter, 1923
Among the articles are:—*A. Lunn*, Mountaineering on ski: *Prince Waldstein*, Visit to Grindelwald, 1600: *H. C. H. Marriott*, Hints for a ski beginner.

— Summer Season 1923. 8×5 : pp. 111: ill. Olten, Walter, 1923
This contains:—*J. E. C. Eaton*, Mountaineering in Switzerland: *W. G. Lockett*, J. A. Symonds and the Alps: *W. A. B. Coolidge*, A great English climber, *Wm. Mathews*: *P. Lang*, Helvetic bibliography.

Thorington, J. Monroe. Old trails and new peaks in the Canadian Rockies.
In *Bull. Geogr. Soc., Philad.*, vol. 20, no. 4. $10 \times 6\frac{1}{2}$: pp. 120-131: ill.

Oct. 1922

Toll, Roger W. The Mountain Peaks of Colorado. 9×6 : pp. 59.
Colorado Mountain Club, 1923

Containing a list of named points of elevation.

Tursky, Franz. Führer durch die Glocknergruppe. $6\frac{1}{2} \times 4$: pp. xiii, 164:
maps, plates. Wien, Artaria, 1923

An excellent climber's guide to the district.

— — Der Grossglockner und seine Geschichte. $7\frac{1}{2} \times 5$: pp. 143: plates.
Wien and Leipzig, Hartleben, 1922

Chapters on geology, glaciers, botany, poetry, painting, map, history of
ascents, routes, huts, etc. An excellent monograph.

Vallot, J. Evolution de la Cartographie de la Savoie et du Mont Blanc. Fasc.
1, avec un atlas . . . reproduisant 123 cartes anciennes. $10 \times 6\frac{1}{2}$: pp. 32.
Paris, Barrère, 1922

— — Atlas de 26 planches. 22×19 .

Reprints of maps from 1478.

— Le massif du Mont Blanc. Paysages caractéristiques et documen-
taires. Tome 2. La haute chaîne. $9\frac{1}{2} \times 7\frac{1}{2}$: pp. 14: 84 plates.

Paris, Fischbacher, 1923

**Wagner's Führer durch Nordtirol Vorarlberg die angrenzenden Gebiete von
Oberbayern und den Tauern.** Bearbeitet von H. Schwaighofer. $5\frac{1}{2} \times 4\frac{1}{2}$:
pp. 432: maps. Innsbruck, Wagner, 1922

Wagner, Henry R. The Plains and the Rockies. A bibliography of original
narratives of travel and adventure 1800-1865. 10×7 : pp. (v), 193.

San Francisco 1921

A list of works and notes thereon concerned with the early exploration of
the Rocky Mountains, beginning with Alex. Mackenzie who was the first to
cross the Continent in 1793. Among other writers included are Lewis and
Clark, Alex. Henry, David Thompson, Ross Cox, David Douglas, Wilkes,
Fremont, Palliser, etc.

White, Alf. G. New York to Mexico City. In *Bull. Geogr. Soc., Phil.*, vol. 21,
no. 1. $10 \times 6\frac{1}{2}$: pp. 22-9: sm. pl. Orizaba. Jan. 1923

Williams, M. B. Through the heart of the Rockies and Selkirks. $9\frac{1}{2} \times 6\frac{1}{2}$:
pp. 105: map, plates. Canada, Minister of Inter., 1921

Winter, J. B. From Switzerland to the Mediterranean on foot (and extracts
from my mountaineering journal). $7\frac{1}{2} \times 4\frac{1}{2}$: pp. 124: plates.

London, Laurie, 1922

Sierre, Thonon, Annécý, Briançon, Cannes.

Winter Sports in the Czechoslovak Republic. $9 \times 4\frac{1}{2}$: pp. 16: ill. 1922-3
Zinniker, Otto. Allein aufs Lauteraarhorn. In *Deutsche Alpenz.* Jahrg. 18,
Hft. 10. 12×9 : pp. 219-224. 1922

Zsigmondy, E., u. Wm. Paulcke. Die Gefahren der Alpen. 7. Aufl. $8\frac{1}{2} \times 5\frac{1}{2}$:
pp. xvi, 387: ill. München, Rother, 1922. 4/-

Older Works.

Bourgeat, Abbé. De l'envahissement des glaciers de la Dôle. *Ex. Ann.*
Soc. Sc. Bruxelles 1883. $9\frac{1}{2} \times 6\frac{1}{2}$: pp. 12: map. 1883

- Ceresa, G. F.** 600 Kilometri alle Alpi. Escursioni alpine . . . dal colle di Frejus al Brenner. $7\frac{1}{2} \times 4\frac{1}{2}$: pp. 104. Torino, Favale, 1869
- Collomb, Ed.** Note sur l'époque d'apparition des glaciers dans l'Europe centrale. In C.R. Acad. d. Sc. Paris, t. 31, pp. 709-12. 11 x 9. Nov. 1850
- Dill, J. R.** Panorama der Siedelhorn sur le Grimsel. 48×5 : pan. Berne, c. 1865
- Faris, John T.** Seeing the Far West. $8\frac{1}{2} \times 5\frac{1}{2}$: pp. 304: maps, plates. Philadelphia and London, Lippincott, 1920. 25/-
- Grill, J.** Bergführer-Buch 1870-1899. Copy of, in MS.
- Huc, Evariste Régis.** Souvenirs d'un voyage dans la Tartarie, le Thibet et la Chine pendant les années 1844, 1845 et 1846. 2 vols. $8\frac{1}{2} \times 5$: pp. 426: 516: map. Paris, Le Clere, 1850
- Lake District.** The northern tourist. Seventy-three views of lake and mountain scenery, etc., in Westmorland, Cumberland, Durham, and Northumberland. Gage d'amitié. $10\frac{1}{2} \times 8\frac{1}{2}$: pp. iv, 149-220: 69 plates. Paris and London, Fisher (1836)
- This is the third annual vol. of Picturesque Lake and Mountain Scenery of England.
- Lampugnari, Giuseppe.** In Valsesia. La Val Grande ed il Monte Rosa. Estr. 'La Valsesia,' C.A.I. Verbano. $9\frac{1}{2} \times 7$: pp. 84: plates. Torino, Paravia, 1907
- De Lapparent, A.** Action de la glace. Ex Traité de géologie. 1 éd. $9\frac{1}{2} \times 6\frac{1}{2}$: pp. 248-507. c. 1882
- 3 éd. pp. 254-308. c. 1890
- Letronne.** Notice de l'ouvrage intitulé: Histoire du passage des Alpes par Annibal . . . par J. A. Deluc. Ex Journ. d. Savans. $9\frac{1}{2} \times 7\frac{1}{2}$: pp. 16: map. Janv. 1819
- Murray.** Manuel du voyageur en Suisse . . . Traduit du Handbook, de Murray, par Quétin. Avec un grand nombre de documents nouveaux sur les montagnes des Grisons. 6×4 : pp. lxxii, 586: map, 2 plates. Paris, Maisson, 1844
- (**G. Nicholson, Editor.**) The Cambrian traveller's guide, and pocket companion, containing the collected information of the most popular and authentic writers. $8 \times 4\frac{1}{2}$: pp. vii, 719. Stourport, Nicholson: London, Symonds, etc., 1808
- On p. iii is a short bibliography of travels in Wales. Various ascents of Snowdon and Cader Idris are quoted.
- Norway.** Tracks in, of four pairs of feet delineated by four hands. $7 \times 4\frac{1}{2}$: pp. viii, 95. London, Sampson Low, 1884
- de Pereda, José M.** Dans la montagne (Peñas arriba). Traduction de H. Collet et M. Perrin. $7\frac{1}{2} \times 4\frac{1}{2}$: pp. 337. Paris, Delagrave, 1918
- An interesting novel.
- Les Pérégrinations d'un alpiniste à travers les Alpes-maritimes, les Basses-Alpes, Le Dauphiné, La Savoie, La Suisse . . .** par un alsacien. $8\frac{1}{2} \times 5$: pp. 314 Nice, Visconti: Paris, Marpon Flammarion (1883)
- Prevost, Constant.** Sur l'apparition récente des glaciers en Europe. In C.R. Acad. d. Sc. Paris, t. 31, pp. 313-15. 11 x 9. Nov. 1850
- Schwinner, Robert.** Der Mte Spinale bei Campiglio und andere Bergstürze in den Südalpen. Inaug.-Dissertation, Zurich. 9×6 : pp. 127-197: map. Zurich, 1912
- Stöber, Adolf.** Reisebilder aus der Schweiz in Gedichten. $5 \times 3\frac{1}{2}$: pp. 128. St. Gallen, Scheitlin u. Zollikofer, 1850
- Switzerland.** Le guide des voyageurs en Suisse. Précédé d'un Discours sur l'état Politique du Pays. [J. B. Reynier ?] $6\frac{1}{2} \times 4$: pp. lx, 391. Paris, Buisson, 1790

Wales. The Cambrian tourist, or Post-Chaise Companion . . . 6th ed. $6\frac{1}{2} \times 4$: pp. vii, 316: plates, map. London, Whittaker, 1828

— The Cambrian traveller's guide in every direction. 2nd edition corrected and considerably enlarged. $9 \times 5\frac{1}{2}$: pp. xiii, 1468: map.

Stourport, printed by the editor: London, Longmans, etc., 1813
In the section on Snowdon occurs: 'It is worth remarking here that a traveller intent on ascending mountains should be provided with such nails as M. A. Pictet recommends to those who ascend the Glaciers.' Pennant's, Bingley's and Evans' ascents are quoted; Akin's ascent of Cader Idris; also remarks on Cader Idris by Mr. Donovan from Univ. Mag., Mch. 1808.

Wills, Alfred. Le nid d'aigle et l'ascension du Wetterhorn. $7\frac{1}{2} \times 4\frac{1}{2}$: pp. 294: map, plate. Paris, Meyrueis, 1864

NEW EXPEDITIONS.

Mont Blanc Group.

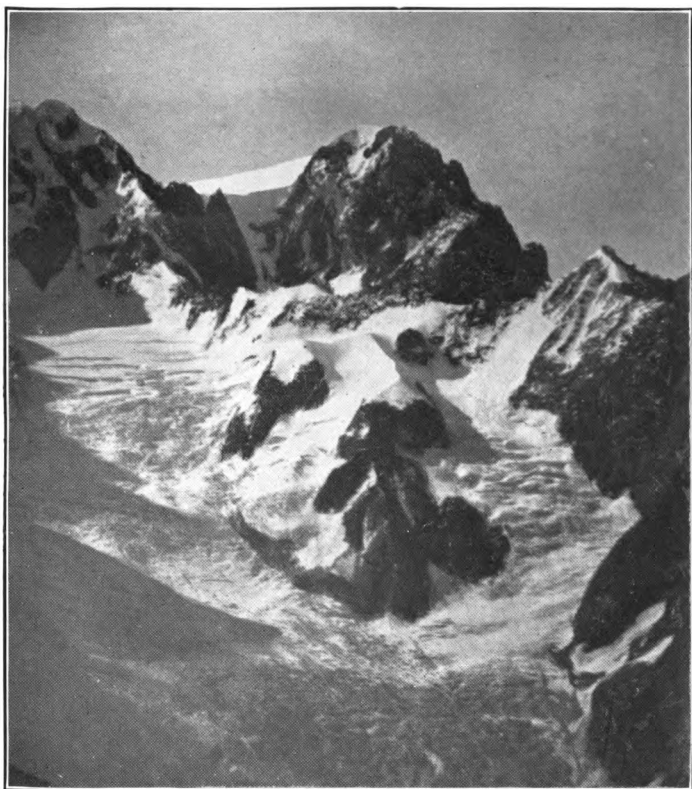
THE COL MAUDIT (4051 m. = 13,288 ft.) between Mont Maudit and M. Blanc du Tacul.

We, my brother Baptiste, Francesco Ravelli, Gustavo De Petro (C.A.I. Turin) and I effected this passage on July 26, 1921.

Leaving the Col du Géant Inn at 2.40 A.M., we reached the base of the ample col between Mont Maudit and M. Blanc du Tacul at 4.30 A.M. As it was impossible to cross the very open *rimaie* we had to bear along it till beyond the mouth of the couloir of the S. face of M. Blanc du Tacul where we found a crossing. By means of ice-slopes and easy rocks we were able to gain the middle of the couloir of our col by 6.30 A.M. The line from this point continued, at 7 A.M., directly by the bottom of the couloir itself, easy rocks, and finally by the wall of the left (N.) bank, fairly difficult and very steep (see Plate). The col was reached at 9.50 A.M. From here we ascended M. Blanc du Tacul by its S.W. arête and leaving at 13 by its shoulder and N.W. face, the Col du Midi was gained at 14.30 and the Géant Inn at 17.15.

The route is, throughout, exposed to falling icicles from the cornice of the col, but this danger can be safely avoided by starting the ascent of the couloir at dawn and forcing the pace. We lost $1\frac{1}{2}$ hour in turning the *rimaie* and another hour in attempting, unsuccessfully, an arête more to the left than the couloir. This drove us back into the couloir. Taking into account these $2\frac{1}{2}$ hours lost we are of opinion that, in normal conditions—the summer of 1921 was exceptionally bad for the glaciers—the Col Maudit could be easily gained in 2 to $2\frac{1}{2}$ hours from the foot of the couloir, *i.e.*, in time to reach the summit of M. Blanc over the shoulder of M. Maudit and up the Mur de la Côte.

G. F. GUGLIERMINA,
Hon. Member of the Varallo Section C.A.I.



Telephoto Gugliermina.

COL MAUDIT AND MONT BLANC DU TACUL.
From Mt. Paramont (Rutor).

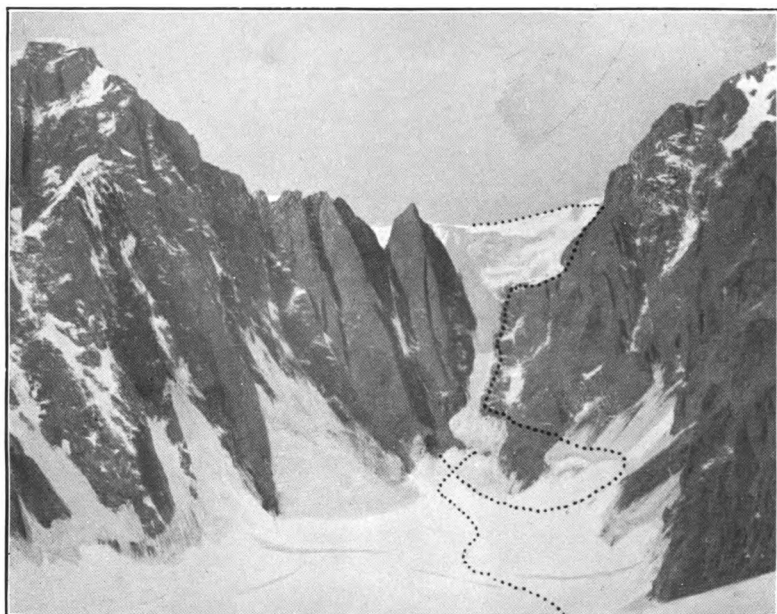


Photo F. Ravelli.

LE COL MAUDIT
From the Tour Ronde

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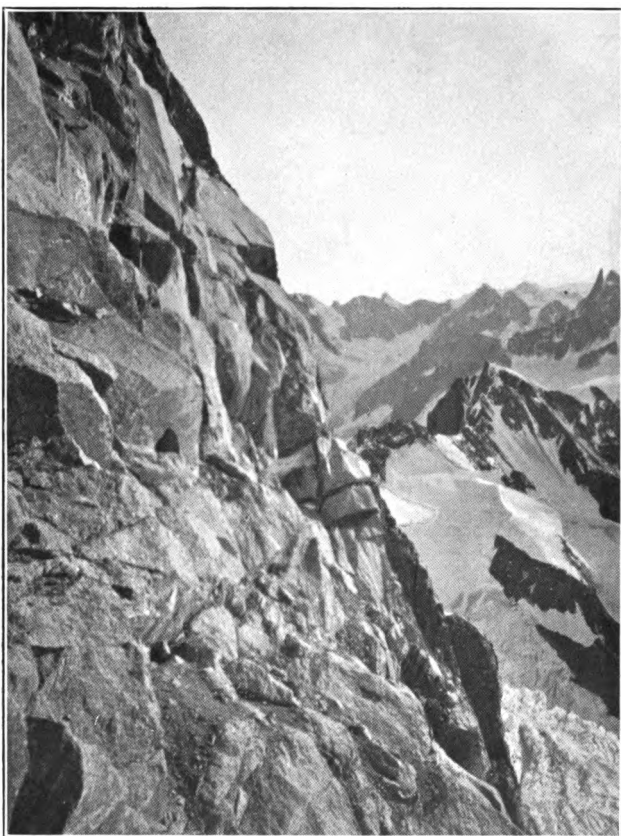


Photo F. Ravelli.

SOURCE OF PEUTERET AVALANCHE

Near Pte. 4381, in 1920.

Bernese Oberland.

ARÊTE BETWEEN LÖTSCHTHALER BREITHORN (3782 m. = 12,412 ft.) AND GREDETSCHHÖRNLI (3662 m. = 12,015 ft.) BY A. S. BUTTRESS. August 29, 1922.—Mr. E. R. Blanchet with Peter Marie Zurbriggen of Saas Fee. The route for this quite first-rate expedition starts from the new Baltschieder Hut (Mr. Blanchet bivouacked beside it, then unfinished), crosses the Innerer Baltschiederfirn to the foot (point 2986 Siegfried) of the very long and very steep arête, which eventually joins the main arête between the Lötischthaler Breithorn and the Gredetschhörnli. A succession of gendarmes, all difficult, and several very difficult, occupied the climbers from 8 A.M. to 3.30 P.M. Much mutual help was needed. Only once was a traverse made on the left to avoid an absolutely unclimbable overhang. The gendarme which from below seems the last is actually only half way. A violent storm caused much hindrance. Acrobatic climbing up a vertical difference in altitude of about 700 m. Once the main arête is reached all difficulty ceases, although the summit of the Lötischthaler Breithorn is some way away on the left. The party returned by the Gredetschjoch and, getting lost in thick mist and a violent storm, had great work to avoid a bivouac on the glacier.

VARIOUS EXPEDITIONS.

Mont Blanc Group.

MONT BLANC DE COURMAYEUR (Pt. 4381 m. = 14,370 ft.), BY S. ARÊTE. August 1922. Signor F. Ravelli, with a friend and a porter.—The party, from the Gamba hut, crossed the S.E. arête of the Innominata a bit above the col and gained the Col de Peuteret, using in its lower part the Croux-Jones arête ('A.J.' xxiv. 677, with route-marked photograph). The next day they gained Pt. 4381 on the main S. arête of Mont Blanc de Courmayeur, but were there overtaken by bad weather, and made an arduous descent to the Gamba hut, reached only at 11 P.M. On the way the party passed quite close to the place whence the great avalanche described in 'A.J.' xxxiii. 433 broke away, and Signor Ravelli is good enough to send us the accompanying photograph of the place.

ALPINE NOTES.

'BALL'S ALPINE GUIDE,' THE WESTERN ALPS.—A new edition (1898) of this work, reconstructed and revised on behalf of the Alpine Club by the Rev. W. A. B. Coolidge, Fellow of Magdalen College, Oxford, can be obtained from all booksellers, or from Edward Stanford, Limited, 12 Long Acre, W.C. 2. It covers the Western Alps from the Mediterranean to the Simplon, S. of the Rhone. Price 13s. net, post free 13s. 8d. net.

'BALL'S ALPINE GUIDE,' THE CENTRAL ALPS. PART I.—A new edition (1907) of this work, reconstructed and revised on behalf of the Alpine Club under the general editorship of the Rev. A. A. Valentine-Richards, Fellow of Christ's College, Cambridge, can be obtained from all booksellers, or from Edward Stanford, Limited, 12 Long Acre, W.C. 2. It includes those portions of Switzerland to the N. of the Rhone and Rhine Valleys. Price 7s. 6d. net, post free 7s. 11d. net.

'BALL'S ALPINE GUIDE,' THE CENTRAL ALPS. PART II.—A new edition (1911) of this work, reconstructed and revised on behalf of the Alpine Club under the general editorship of the Rev. George Broke, can be obtained from all booksellers, or from Edward Stanford, Limited, 12 Long Acre, W.C. 2. It includes those Alpine portions of Switzerland, Italy, and Austria which lie S. and E. of the Rhone and Rhine, S. of the Arlberg, and W. of the Adige. Price 8s. 6d. net, post free 9s. net.

MAP OF THE VALSESIA.—Some copies of the Map issued with the ALPINE JOURNAL, No. 209, and of the plates opposite pages 108 and 128 in No. 208, are available and can be obtained from the Assistant Secretary, Alpine Club, 23 Savile Row, W. Price for the set (the Map mounted on cloth), 3s.

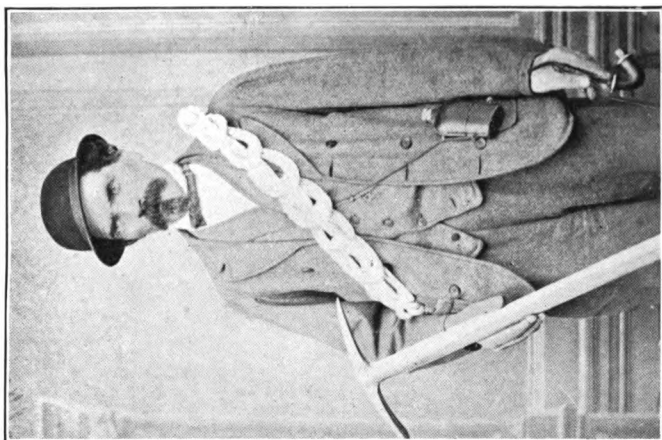
THE 'GUIDE DES ALPES VALAISANNES.'—Vol. II., from the Col de Collon to the Théodule, edited by Dr. Dübi. The French edition, thoroughly revised and with the route-marked illustrations, can now be obtained from Albert Kündig, Geneva.

THE 'CLUBFÜHRER DURCH DIE BÜNDNERALPEN.'—Vol. IV., covering the Bregaglia and the Disgrazia group, by H. Rütter, with the assistance of Christian Klucker, can be obtained from Sauerländer and Co., Aarau, Switzerland.

ALPINE JOURNAL.—A full set, Vols. I. to XXXI., in brown cloth, and XXXII. to XXXIV. in parts, is for sale.—Apply, Assistant Secretary.



J. OAKLEY MAUND.
(Obit. Notice by C. T. Dent, A. J. 189-191 XXI.)



J. J. MAQUIGNAZ
about 1867.
(Presented by Sig. Cav. Guido Rey.)

THE ALPINE CLUB OBITUARY :

	Date of Election.
Stone, J. K. (Rev. Father Fidelis)	1860
Latham, F. L.	1862
Bircham, F. T.	1864
Foster, C. Finch	1864
Cheetham, F. H.	1867
Whitwell, E. R.	1868
Gage, J. E. P.	1877
Gordon, Rev. J. M.	1896
Kingdon, H. F.	1897
Osler, J. T.	1903
Casella, Georges	1918

HIS HOLINESS THE POPE.—Mr. Freshfield had the honour of being received by his Holiness in April last, when he presented, on behalf of the Alpine Club, a portfolio of enlarged photographs of the Mount Everest district. His Holiness conversed at length on and showed great interest in the details of the expedition. He desired his good wishes and thanks to be conveyed to the Club.

THE death at Zermatt in March is announced of PETER TAUGWALDER, the sole survivor of the accident on the Matterhorn in 1865. Born on November 12, 1843, he was accordingly in his eightieth year. Note 24 of 'A.J.' xxxii. 31 gives a few of his principal expeditions. He is stated to have ascended the Matterhorn 125 times.

Mr. Whympers's strictures on his conduct after the famous accident were undoubtedly very severe, but some allowance must be made for intense excitement on both sides and for possible misunderstanding owing to scanty acquaintance with each other's language. In any case, Taugwalder lived to become the great master on the Swiss side of the fatal mountain and an able and careful mountaineer.

In the *Journal de Genève* for March 27, Captain Charles Gos, the well-known writer, pays to the memory of the old guide a characteristically handsome tribute.

SAAS GRUND.—Hotel Monte Moro has been taken over by Mr. Wither's old guide, Adolf Andenmatten, who hopes for English patronage.

'THE CONQUEST OF THE NEW ZEALAND ALPS,' by Samuel Turner.—In the review of Mr. Turner's book in the last ALPINE JOURNAL, it was stated that he threw doubt on Zurbriggen's ascent of Mt. Cook. He points out that on p. 206 he writes : ' Since my last statements I have seen Mt. Cook and been on its slopes

a good deal, and from what I know now I have no hesitation in stating that I believe Zurbriggen did reach the summit of Mt. Cook after he left Adamson at about 10,000 ft.'

That Adamson did accompany Zurbriggen to about 10,000 ft. and that Zurbriggen was alone only for the last 2000 ft. is, of course, well known.

Mr. Turner maintains that Fyfe, G. Graham and Clark, who on December 28, 1894, made the first ascent of the highest summit of Mt. Cook, were *guides* and not amateurs, and points out that a Dr. Kronecker, writing earlier in 1894, so terms them.

The reviewer maintains his own opinion on this question.

A convenient summary of the various routes up Mt. Cook, with illustrations, is given in the Rev. H. E. Newton's article, 'A.J.' xxix. 12.

THE FRESHFIELD GROUP ('A.J.' xxxiv. 387 *seq.*).—Dr. Thorington writes: 'Mt. Bergne and Mt. Lambe were reached *via* the Conway basin from a camp near the cliffs N. of the ice tongue. The first ascent of Mt. Coronation was made in 1918 by Mr. A. J. Campbell of the Survey, the cairn being built rather lower down to suit survey requirements. The ascent of this mountain by Dr. Thorington's party was the second (first from the E.).'

In the lower illustration, facing p. 388, the summit of Mt. Barnard, 10,955 ft., the highest peak of the group, is seen in the background, 1½ inches from the right-hand margin. This illustration is panoramic and continuous with the lower illustration facing p. 389.

WINTER SPORTS ON THE EQUATOR.—At an altitude of 15,800 ft. on Mt. Kenya is a frozen lake offering good skating, while the surrounding snow slopes permit of the usual winter sports. A motor road has now been made from Nairobi, the rest-house at Chogoria being reached the first day in 9 hours, and the lakeside rest-house next day in about 3 hours by what is described as a beautiful winding road through gorgeous primeval forest and over open uplands. The best time is between July and February.

A NEW INN ON THE THÉODULE.—The Turin section of the C.A.I. have bought the site of the old inn now in ruins and propose to erect an inn with modern equipment. The dining-room is to seat fifty persons and sleeping accommodation is provided for seventy, besides guides. The cost is to be covered by an issue of 6 per cent. shares of 500 lire redeemable by annual drawings over thirty-five years. Applications to C.A.I., Via Monte di Pietà 28, Turin.

THE PINNACLE (LADIES') CLUB now counts sixty-three members. Regular meets are held and a journal is to be published. Mrs. Winthrop Young is the President.

S.A.C. ACCOUNTS FOR 1922.

Expenditure on new huts, repairs, etc.	. Fr. 33,388
„ „ Jahrbuch, vol. 56 . . .	100,935
„ „ Alpina	41,964
Total expenses excluding Jahrbuch . . .	155,921
„ receipts	193,025
New members	1,838
Total „	22,418

REVIEWS.

Below the Snow Line. By Douglas Freshfield, former President of the Alpine Club and of the Royal Geographical Society. London: Constable. 18s. net.

THIS volume of Mr. Freshfield's minor climbs should meet with a hearty welcome. Most of the articles were originally published in this JOURNAL, but they well deserve their appearance in book form. Mr. Freshfield has the gift of bringing before the eyes of his readers the narrow glen, the spacious valley, the glorious mountain view, which he wishes to describe, with a precision of detail and a perfection of colouring which few mountaineers have attained.

There are chapters on: The Maritime, Bergamasque, and Dinaric Alps—Bye Corners in Savoy—Behind the Bernina—The Pania della Croce, the Gran Sasso d'Italia—Corsica—Taygetus and Parnassus—The Kabyle Highlands—The Mountains of the Moon—and Byways in Japan.

It is pleasant to find one who knows the splendours of the Caucasus and the Himalaya enjoying, with an enthusiasm which communicates itself to his readers, the charms of mountains which, though of humbler height and smaller reputation, deserve a place in the peerage of earth's summits. Of course, climbing on these lower heights is possible when on the great mountains it is perilous; and so on these hills, of which Mr. Freshfield treats, the climber can enjoy himself when the great peaks are 'out of season.' How great that enjoyment may be, and how easy of attainment, a perusal of this book will make plain, for here his readers may acquire the information of a guide-book whilst they are enjoying the charm of his style and the wisdom of his experience. Moreover, while he climbs Mr. Freshfield never forgets the human interest of his adventures. He gives us living pictures of the men he met in outlandish spots—*e.g.* the priest of San Nicolo (on the way to the Gran Sasso), and the Kaid of Tifit (in Kabylia) who 'might have appeared on any classical stage as Priam.' 'Our guide (to Tifit) came very near my idea of Ulysses. He was a man of middle age, tall, sunburnt, and sinewy: he carried François (Devouassoud), who weighed at least 14 stone, over a stream with

the greatest ease. In his demeanour and in the way in which he draped his cloak there was a certain nobility: at the same time there was something in his look which made one suspect that in case of need his strength would find adequate support in his wits.'

We hope that many who read these articles in the ALPINE JOURNAL will re-read them in their new presentation—*δὲς ἡ τοῖς τὰ καλὰ*.

The book is furnished with nine maps, and an excellent index.
G. Y.

The Alpine Club Register, 1857-1863. By A. L. Mumm. London: Arnold, 1923. 21s.

MANY of us have known for years of Mumm's 'Dossiers' but few realised what an amount of work and meticulous care had been bestowed on them. The present volume of nearly 400 pages covers only the earlier years, but it contains names that have been household words since our boyhood. The book is not simply a register; many of the 'lives' are told in a very interesting manner, giving a chronological account of the Alpine activities of members, besides a summary of the principal episodes of their lives. In but few cases do the Alpine records appear to have been untraceable. One striking feature brought out by this book is the wide travelling done by these pioneers of ours.

There can be little to criticise in any work of the present author. He might perhaps have laid greater stress on the enterprise and intuition of the Parkers. The first ascent of the Ostspitze is credited to the Smyths (p. 299)—the paper in 'A.J.' xxxi. ascribing the first ascent to Ulrich's guides in 1848, and the second to the Schlagintweit's party in 1851 not being mentioned.

There are very few printer's errors in a book which lent itself to many.

The volume is one that can be picked up at any moment; one is certain of finding something of interest and suggestions for one's next journey. It is to be hoped that the series will be continued. The author would, meantime, welcome; we feel sure, the indication of any errors or omissions.

Oxford and Cambridge Mountaineering, 1922. Oxford: The Holywell Press Ltd. 2s. 6d.

WE congratulate the authors on an excellent number. Within the modest limit of less than a hundred pages is contained a varied and well-chosen collection of interesting articles. *Seniores priores*: Dr. A. D. Godley contributes 'Sub Rosa,' a well-illustrated article rich in experience on the tour of Monte Rosa; while Dr. T. G. Bonney, who gained his first view of the peaks and glaciers of the Alps in 1856, writes with unabated interest on the 'Memories of a Geologist.'

Many climbs were accomplished in 1922, the Matterhorn by the Z'Mutt ridge being the most formidable. An Oxford party at

Chamonix climbed the A. du Tacul (loose snow above the leader's knees), the Grands Charmoz, the Blaitière, the Argentièr, the Chardonnnet, and, moving on to Zermatt, ascended the Rothhorn, Dom, and Dent Blanche, to say nothing of lower summits.

A Cambridge party traversed the Graians (an ideal district for beginners): starting with the Central Levanna they finished with the Nomenon, and their story is well told by Mr. A. E. Storr. They slept a night at Perrebeche in Val d'Orco, where 'the Cantina was surprisingly clean,' another at the Muanda di Teleccio (preparatory to a successful attack on the Tour St. Pierre), another at the Herbetet Chalet, whence they ascended the E. ridge of the Herbetet. Oxford also had a Club Meet in the Graians, making their headquarters at the V.E. Refuge. Their most enjoyable climb was on the Punta di Ceresole, when the weather relaxed its rigour and gave them a perfect day.

Climbing in the Dolomites, Skye, and Lakeland finds its place.

There is an excellent paper on 'Courses Collectives,' by the President of the C.U.M.C., who sums up the advantages of such companionship thus: 'I had set out with strangers: I parted from friends.' All success to the enterprise and enthusiasm of our younger brethren. G. Y.

Clubführer des S.A.C. Bündner Alpen. Vol. IV. Southern Bregaglia and Monte Disgrazia. Edited by H. Rütter. With numerous illustrations and route markings. Pp. xvi + 182. Aarau, 1922.

THIS compact and handy volume reflects the greatest credit on its distinguished editor. When we read that Christian Klucker, Dr. Claude Wilson, Count Bonacossa, and other authorities are thanked by the editor for their assistance and revision, there is little wonder that this, the fourth guide book published on the district, should be the most indispensable of all. If only the entire district bounded by the Muretto Pass, Valtellina, Lake Como, and Val Bregaglia could have been included, the reviewer's satisfaction would have been complete.

The text is admirable, concise and clear. It is apparently almost impossible to detect even an unimportant slip. No superfluous descriptions of routes appear. The illustrations, however, are neither artistic nor are the routes sometimes correctly marked. The reviewer has yet to be shown a series of satisfactory outline sketches especially for rock mountains: either they are taken from too great a distance for anything approaching accuracy (*cf.* pp. 40, 152, 153), or they are taken from a few yards off, when they appear to us entirely superfluous (*cf.* pp. 48, 130). This criticism, however, applies to all previous *illustrated* 'Club' guides.

It is a most ungrateful task trying to pick holes in another's work, but there is an unfortunate mistake in the illustrations on pp. 151 and 157. The 'ordinary' route up Piz Badile is in each case apparently marked on the S.W. slope of the great S. buttress of the mountain instead of the

S.E. No such error, fortunately, occurs in the text, where the route is perfectly correctly described as being by the said *S.E.* slope. Still the average guideless party, ignorant perhaps of German and only studying the marked outline sketch, will be more than likely to get into hideous trouble on this, perhaps the most famous summit in the district. We write with a vivid recollection of a *descent* of the *S.W.* slope. No doubt the bad drawing of the peak is in part responsible for the error. Again, with reference to the said mountain, the *simple* way to climb the *E. arête* is to go to the Colle del Cengalo, turn point 3198 m. by a ledge to the *S.*, and then gain the *E. arête* and follow it to the top.

In the sketch (p. 46) of the Cime del Largo traverse, the great tooth—the crux of the traverse—which has to be turned to the *S.* by a descent of some 30–40 ft. on a spare rope, is not shown.

On p. 125, the dotted line leading to the gap, Bocchetta del Ago di Sciora, is marked in its commencement *far too high*. The rocks are there quite impossible.

Again, on p. 107, ‘Le Forcellete from the *S.*,’ the true pass, *pace* the illustration and text, is the great gap just *W.* of the Cacciabella ridge. In 1908 the reviewer’s party, after descending a few broken rocks, glissaded down the entire couloir leading from just below the said great gap, the only trouble occurring about the tree line. The gap, therefore, cannot be described as ‘impossible in its upper portions’ (p. 108).

On p. 37, it should be noted that Anselmo Fiorelli and *not* Sertori was Castelnovo’s guide.

It is very interesting historically that Klucker has discovered Mr. Freshfield’s card on point 3223 m. This summit was therefore attained for the first time by the British party on the occasion of the first crossing of the Bondo Pass by travellers, July 8, 1865 (p. 140).

As regards the nomenclature, this appears to be now, at last, definitely fixed. Nothing could be more admirable. Objectionable and personal names disappear from the Swiss slope and Frontier Ridge.

Only one hope yet remains unfulfilled—a fresh edition of the Siegfried sheets 520 and 523, the several errors of which are fully commented on in the text. It would probably be too much ever to expect new and correct sheets of the highly inaccurate and illegible Italian Government Survey. Herr Rütter is *not*, however, responsible!

To conclude, all mountaineers are deeply indebted to Herr Rütter and the S.A.C. for this most admirable and painstaking work.

E. L. S.

Mountain Climbs. By Abate Achille Ratti (now Pope Pius XI.). Translated by J. E. C. Eaton. T. Fisher Unwin, Ltd. 8s. 6d.

THE appearance of this attractive little volume deserves to be noticed in this JOURNAL for more reasons than one. In the first place

a mountaineer-Pope is a novelty, and all who are interested in climbing will naturally wish to know as much as possible about his doings in that capacity. Such a book as this was the best and most effective way of gratifying this feeling of curiosity, and it is a further satisfaction to find that by far the largest part of the work of producing it (excepting, of course, the author's own share) was performed by members of the Alpine Club.

These considerations would hold good if the articles here translated were of a much lower grade of merit than they actually possess, but they are all well worth reading for their own sake, and one in particular, the impressive narrative of the traverse of Monte Rosa from Macugnaga to Zermatt in 1889, is of altogether exceptional interest. The exhaustive examination of this remarkable expedition in Mr. Freshfield's excellent Foreword leaves nothing further to say about it, and we need here only record our satisfaction that its story has been brought to the knowledge of English readers, and is now assured of the permanent place which it most certainly deserves in the annals of Monte Rosa.

Mr. Eaton has performed his task as a translator admirably, as usual, and Mr. Spencer is to be congratulated—also as usual—on his work in connection with the illustrations. Those of Monte Rosa especially form a most valuable and instructive series.

CORRESPONDENCE.

DEGREE OFFERED TO MR. FRESHFIELD.

LE RECTEUR À MONSIEUR DOUGLAS W. FRESHFIELD.

[The following communication has been received by Mr. Freshfield. The degree was conferred, as suggested, on June 5, on Mr. Freshfield in person.]

MONSIEUR,—Nous avons l'honneur de vous informer que l'Université de Genève, sur la proposition de la Faculté des Lettres, vous a décerné : *le Doctorat ès Lettres honoris causa*, en reconnaissance de votre œuvre littéraire, dans laquelle nous distinguons la Biographie d'H. B. de Saussure.

Cet ouvrage remplit une lacune de l'Historiographie genevoise, et élève un monument remarquable à ce grand savant qui fut en même temps un grand citoyen.

Tous les Genevois qui s'intéressent au passé de leur ville, vous sont reconnaissants d'avoir fait revivre cette belle figure trop oubliée.

Les nombreux alpinistes genevois ont été touchés de l'hommage rendu à celui que vous considérez comme le fondateur de l'alpinisme.

L'Université de Genève ne saurait oublier que vous êtes le représentant le plus autorisé de ces Pionniers de l'Alpine Club qui, suivant

les traces de Saussure, nous ont appris à connaître et à aimer nos montagnes.

Pour ces diverses raisons nous aimerions à vous témoigner notre reconnaissance par une remise solennelle de votre Diplôme qui nous permettrait de réunir autour de vous les Professeurs de l'Université, les descendants d'H. B. de Saussure et les représentants de l'alpinisme genevois.

Le 5 juin l'Université célèbre son 'Dies academicus' et, au cas où il vous serait possible de vous rendre à Genève pour cette date, nous serions particulièrement heureux de pouvoir vous remettre votre Diplôme au cours de cette cérémonie.

Veuillez agréer, Monsieur, l'assurance de ma considération distinguée.

(Signed) R. WEBER.

Cabinet de Recteur,
Université de Genève,
Genève, le 11 mai, 1923.

WINTER EXHIBITION OF PAINTINGS.

THE general impression first created in one's mind by the recent exhibition was the revival of pre-war memories. Formerly the picture show contributed in no small measure to make the winter functions of the Club within and without its walls the event of the year. From the 'uttermost parts of the earth the tribes came up to Jerusalem,' and although on this occasion the gallery was not so crowded as it used to be, one saw many old friends amongst the visitors, and when one turned to the pictures many familiar names we were pleased to welcome again as exhibitors.

The chief feature, however, of this winter's show was a memorial exhibition of the work of our late member, E. T. Compton, whose pictures occupied about half the wall space in the gallery. Compton always appealed to mountaineers, working as he did above the snow line; no contemporary artist was more appreciated by the climber, whatever his nationality. He knew the architecture of his subject so well, drawing the forms of his peaks, and the foregrounds, whether glacier or rock, with an accuracy and texture always to be admired. He stood alone as an interpreter of the snow mountains he loved.

Although we missed a number of his most famous pictures, a very representative collection of his best black and white drawings was loaned. Particularly did we note 'Drei Zinnen, from Toblinger'; 'The Berninascharte'; 'The Schmitt Kamin,' 'Fünffingerspitze': Rockclimbers. All so sketchy and vigorous in treatment.

It was natural that pictures of the Eastern Alps should predominate, as he lived so long in Bavaria, and in the two 'On the

Bavarian Border,' and panorama, 'Oetzthal Mountains,' we have good examples of his topographical work, almost photographic in their detail. Of his water colours, typical examples were loaned, notably 'Rothwand'; 'Schwartzsee, Styria'; 'Kuchelmoospitze'; 'Gross Glockner'; 'Mors Janua Vitæ'; 'The Saleinaz Glacier.'

Amongst the Compton collection in oils, Miss Broome lent a charming picture, 'Karersee: with Rosengarten Group,' perhaps the gem of this class, a well-composed subject, rich in colour schemes, with shadows reflected in the rich blue water of the lake, from the very marked background of forest, rock, and sky. Here we have Compton below the snow line letting himself go, and putting into his work his emotions and skill of the true artist.

In consequence of the limited space at the disposal of the powers that be (Mr. Sydney Spencer), the contributions from our other artist friends were fewer in number than usual. In the 'Silent Hills,' by Miss Katharine F. Clausen, we have a simple treatment of a big subject, pleasing in effect and well named. Cecil Hunt, so delightful with his colours, always seems ready at hand with his brush to catch the colour effects of his subjects in their most impressionable moods, and succeeds in producing very attractive pictures; they are all good, though we particularly noted No. 96, 'Brenta Dolomites from Monte Spinale.'

From the Hon. John Collier, painting in mid-winter, we have No. 120, 'On the Way to Vermala,' a striking picture in four colours, white of the snow, dark green of the pines, with a brilliant deep blue sky background, and if our memory serves us aright, grey for shadows. No doubt the colour values are correct; they strike one as being so hard, so strong, and yet gradually the picture grows on one, and when lighted up artificially, improves on better acquaintance. Such a picture requires to be by itself.

'Peaks in Mull,' No. 113, by W. Russell Flint, is an attractive sketch of snow-clad peaks in autumn or early winter garb, which might well induce climbers to visit the island.

'Under the Vines, Bignasco, Val Maggia,' No. 93, by Graham Petrie, is happy in its colouring. We suggest Mr. Petrie should give his attention to subjects nearer the snow line.

Col. H. R. N. Donne, confining himself to sub-Alpine subjects, added some dainty sketches, combined of lake, mountain and architecture in a delicacy so characteristic of his brush.

Colin B. Phillip was represented with two Skye pictures, one of which was quite new to us, No. 47, 'The Chioch.' Our friend obviously enjoys interpreting the boiler plate slabs of his beloved Coolins. In this drawing we have the massive, sombre dark grey precipitous cliffs of the Chioch pinnacle, relieved in the foreground by the faded grasses in their sere and yellow tints. It is a fearsome place, and as such the artist depicts it. From H. A. Trier we have work of quite another school. In No. 148, 'The Jungfrau,' there is the dash of impressionism, the colour laid on with boldness and

vigour, which appeals to us as amongst the best pictures in the exhibition. In Miss Hilda Hechle's contributions, 'Sunset Fires,' Chamonix Aiguilles, No. 123, she has very successfully interpreted one of the most impressionable effects it is the privilege of mountaineers and visitors to enjoy in the mountains.

'Aiguille Verte from the Flégère,' No. 138, by Noel Rooke, recalls an Elijah Walton treatment, both as to subject and colour. 'Tajwas Nalla, Souamerg,' No. 141, by Miss Myrtle Fasken, with a foreground of brilliant Alpines, suggests a flora rivalling anything which the Alps may offer.

No. 134, 'The Argentièrre Glacier, 1820,' by J. J. Chalon, lent by Professor J. N. Collie, although nearly a century has passed since it was painted, recalls the work of a Swiss artist who is said to have taught Queen Victoria painting. Chalon's father was a refugee in this country at the period of the Protestant persecutions. Comparing this picture with that by the Hon. John Collier of the same glacier, and in the reading-room of the Alpine Club, it will be observed that the glacier has considerably advanced since the first picture was painted.

In the collection of pastels contributed by Dr. Somervell of the Everest Mountains, we have one small sketch, No. 161, in which the intrepid mountaineer lets himself go to give us an impression of a monsoon such as brought last year's expedition to a close.

PROCEEDINGS OF THE ALPINE CLUB.

A GENERAL MEETING of the Club was held in the Hall, 23 Savile Row, London, W. 1, on Tuesday, November 7, 1922, at 8.30 P.M., Professor J. Norman Collie, LL.D., F.R.S., *President*, in the Chair.

The following candidates were balloted for and elected Members of the Club, namely, Capt. J. G. Bruce, M.C., Mr. H. R. C. Carr, Mr. R. C. C. Carr, Capt. G. I. Finch, M.B.E., Professor J. W. A. Hickson, Capt. C. J. Morris, Major H. T. Morshead, R.E., D.S.O., Capt. J. Noel, Major E. F. Norton, D.S.O., M.C., and Mr. S. L. Pearce, C.B.E.

The PRESIDENT announced the deaths of the following Members:

H.S.H. The Prince of Monaco, elected an Honorary Member in 1921. He was Grand President of the Alpine Congress which took place at Monaco in May 1920, and was greatly interested in scientific research.

Mr. V. H. Gatty, elected 1894. Contributed a number of Papers to the ALPINE JOURNAL. He was a great traveller and a good mountaineer. Several first ascents are to his credit. An obituary notice will be found in the JOURNAL just published.

Sir George Prothero, K.B.E., Litt.D., elected 1874. He was a Fellow of King's College, Cambridge, and was well known as a great scholar and historian.

The Rev. M. A. Bayfield, elected 1877. Rector of Hertingfordbury, Hertford. He had been headmaster of several schools, and had edited a number of Greek plays.

Mr. Edward Backhouse, elected 1904. He was killed on the Leiterspitze during the summer.

Mr. Henry Symons, elected 1903. He was a regular attendant at the meetings of the Club and well known to a good many Members. He was a great linguist.

Brig.-Gen. F. G. Lucas, elected 1908. Commanded the Gurkha Scouts in the Tirah Expedition 1897-98, and took part in the Great War 1914-18, including Mesopotamia. He was the recipient of many honours.

Mr. F. T. Bircham, elected 1864. A very old Member of the Club.

Mr. H. F. Kingdon, elected 1897. An obituary notice will appear in due course.

The PRESIDENT announced that His Holiness the Pope had presented to the Everest Expedition, 1922, a gold medal, which is for the present being exhibited at the Royal Geographical Society's building. It would be handed over for safe keeping to the Alpine Club very shortly.

Brig.-Gen. The Hon. C. G. BRUCE then read a Paper entitled 'Outline of the 1922 Everest Expedition,' which was illustrated by lantern slides.

After a few remarks by Lt.-Col. E. L. Strutt, C.B.E., D.S.O., and the President, a very hearty vote of thanks was accorded the reader of the Paper.

THE ANNUAL GENERAL MEETING of the Club was held in the Hall, 23 Savile Row, London, W. 1, on Monday, December 11, 1922, at 8.30 P.M., Professor J. Norman Collie, LL.D., F.R.S., *President*, in the Chair.

The following candidates were balloted for and elected Members of the Club, namely, Lieut.-Col. C. K. Howard-Bury, D.S.O., M.P., Mr. W. B. Carslake, Mr. Walter Meakin, Major J. H. Norton, Mr. D. R. Pye, Mr. M. E. S. Rudolf, Mr. H. E. Scott, Capt. Horace Westmorland, R.C.A.S.C.

The PRESIDENT, in accordance with the provisions of Rule 29, there being no other candidates, declared the following members nominated by the Committee to be duly elected as Officers of the Club and Members of Committee for 1923:

As President.—Brig.-Gen. The Hon. C. G. Bruce, C.B., M.V.O., in the place of Professor J. Norman Collie, LL.D., F.R.S., whose term of office expires.

As Honorary Secretary.—Mr. Sydney Spencer in the place of Mr. J. E. C. Eaton, whose term of office expires.

As New Members of Committee.—Mr. R. S. Morrish, Mr. N. E. Odell, Mr. G. Sang, and Mr. P. J. H. Unna, in the places of Mr. R. P. Bicknell, Major M. G. Bradley, and Mr. E. V. Slater, whose term of office

expire, and Brig.-Gen. The Hon. C. G. Bruce, C.B., M.V.O., elected President.

It was proposed and seconded that Mr. Reginald Graham and Mr. J. T. Osler be elected Auditors to audit the Club Accounts for the current year. This was carried unanimously.

The PRESIDENT said :—I regret to announce the death of an old Member of the Club. Mr. J. E. P. Gage was elected in 1877. He died on August 26 last at Colac, Victoria, Australia, where he had been resident for many years past.

I have now to propose a vote of thanks to Mr. Sydney Spencer for his work in arranging the Exhibition of Paintings. This was duly seconded and carried unanimously.

Mr. G. A. SOLLY, *Vice-President*, proposed, and Sir EDWARD DAVIDSON, K.C.M.G., C.B., K.C., seconded, a vote of thanks to the retiring President, Professor J. Norman Collie, LL.D., F.R.S., for the work he had done for the Club during his term of office. This was carried with great acclamation.

Mr. H. E. M. STUTFIELD and Mr. R. BICKNELL proposed and seconded a vote of thanks to the retiring Honorary Secretary, Mr. J. E. C. Eaton, which was received with enthusiasm.

The PRESIDENT then delivered a valedictory address.

A MEMORIAL EXHIBITION OF ALPINE PAINTINGS by the late E. T. Compton and other artists was held in the Hall of the Club from Monday, December 11, to Saturday, December 30, 1922. In connexion with the Exhibition an 'At Home' was held on Tuesday, December 12, when about 500 persons—Members and their friends—attended.

THE ANNUAL WINTER DINNER was held in the Edward VII Rooms at the Hotel Victoria on Tuesday, December 12, 1922, at 7 p.m., Professor J. Norman Collie, LL.D., F.R.S., *President*, in the Chair. There were present 248 Members and guests, among the latter being The Rt. Hon. The Earl of Ronaldshay, G.C.I.E., His Excellency Monsieur C. R. Paravicini, Swiss Minister, General le Vicomte de la Panouse, K.C.M.G., C.B., C.V.O., The Rt. Hon. Sir Laming Worthington Evans, Bt., G.B.E., M.P., Sir William Bragg, Mr. Arthur R. Hinks, C.B.E., F.R.S., and Messrs. Raymond Greene and L. Ashcroft Ellwood, Presidents of the Oxford and Cambridge University Mountaineering Clubs respectively.

A GENERAL MEETING of the Club was held in the Hall, 23 Savile Row, London, W. 1, on Tuesday, February 6, 1923, at 8.30 p.m., Brig.-Gen. The Hon. C. G. Bruce, C.B., M.V.O., *President*, in the Chair.

The following candidates were balloted for and elected Members of the Club, namely, Mr. Claud Francis Fothergill, Mr. Archibald Rawlings Painter, and Mr. K. C. P. Struve.

DR. CLAUDE WILSON, *Vice-President*, announced that the President

and Col. E. L. Strutt, C.B.E., D.S.O., were presented with the gold and silver medals respectively of the Société de Géographie and the Club Alpin Français on the occasion of their recent visit to the Sorbonne in Paris to deliver a lecture on the Everest Expedition, 1922, to the Members of those Societies, and that both had expressed a desire to present these medals to the Club. He (Dr. Wilson) was quite sure that the presentation of these medals would be highly appreciated by the Members, and he desired to propose a very cordial vote of thanks to the President and Col. Strutt for their gifts. This proposal was seconded by Mr. G. A. Solly and carried with acclamation.

In order to comply with the provisions of Section 13 of the Licensing Act, 1921, concerning the sale of intoxicants on licensed premises, the following additional Rule was proposed by Sir Felix Schuster, Bt., namely :—

‘Rule 47. Intoxicants will be on sale at General and Informal Meetings of the Club only between the hours of 8.30 P.M. and 11 P.M.’

This was seconded by Mr. R. W. Lloyd and carried *nem. con.*

The Rev. Prebendary HEARD then read a Paper entitled ‘The North-West Ridge and Traverse of the Mönch,’ which was illustrated by lantern slides.

A discussion followed, in which Mr. Claude A. Macdonald, The Rev. Walter Weston, Mr. H. G. Willink, Sir Edward Davidson, K.C.M.G., C.B., K.C., Dr. T. G. Longstaff, and Mr. G. A. Solly took part, and the proceedings terminated with a very cordial vote of thanks to the reader of the Paper.

A GENERAL MEETING of the Club was held in the Hall, 23 Savile Row, London, W. 1, on Tuesday, March 6, 1923, at 8.30 P.M., Mr. G. A. Solly, *Vice-President*, in the Chair.

The following candidates were balloted for and elected Members of the Club, namely, Mr. Harry Joslin Gait and Mr. James M. Wordie.

The HONORARY SECRETARY and TREASURER, Mr. Sydney Spencer, presented the Accounts of the Club for 1922, and pointed out that the cost of the ALPINE JOURNAL had, in pursuance of an undertaking given by Captain Farrar in March last year, been reduced from £586 to £403, and that this reduction accounted for a considerable portion of the surplus shown in the present Accounts. The Accounts were unanimously adopted.

The Auditors, Mr. Reginald Graham and Mr. J. T. Osler, were accorded a hearty vote of thanks for their work in connexion with the Audit.

The CHAIRMAN informed the Club that a new lease of the Club premises had now been completed and signed by the President, Brig-Gen. The Hon. C. G. Bruce, C.B., M.V.O., and Mr. John J. Withers, C.B.E., on behalf of the Club, and that the Committee had passed a resolution indemnifying the signatories to the new lease against all claims under the lease. He (the Chairman) was sure

the Club would wish to give expression to their appreciation of the work done in this connexion by Professor J. Norman Collie, Mr. E. H. F. Bradby, Mr. John J. Withers, C.B.E., Mr. R. W. Lloyd, and Mr. J. E. C. Eaton, and he proposed a vote of thanks to them. This was received with enthusiasm.

Reference was made to the death of Mr. E. R. Whitwell, elected in 1868, which occurred in October last. An obituary notice will be published in due course.

Mr. W. N. LING then read a Paper entitled 'The N. Face of the Disgrazia and other climbs in 1910,' which was illustrated by lantern slides. A discussion followed in which Dr. Claude Wilson and others took part, and a unanimous vote of thanks to the reader of the Paper terminated the proceedings.

A GENERAL MEETING of the Club was held in the Hall, 23 Savile Row, London, W. 1, on Tuesday, April 10, 1923, at 8.30 P.M., Brig.-Gen. The Hon. C. G. Bruce, C.B., M.V.O., *President*, in the Chair.

The following candidates were balloted for and elected Members of the Club, namely, Mr. Leslie Ashcroft Ellwood and Mr. Kenneth Harry Tallerman.

The PRESIDENT announced that the Mount Everest Committee had requested the Committee to appoint a Selection Sub-Committee in connexion with the next Mount Everest Expedition, and that the following Members had been appointed to serve on this Sub-Committee, namely, Mr. G. A. Solly, Vice-President, Mr. G. L. Mallory, Mr. N. E. Odell, Mr. G. Sang, Lt.-Col. E. L. Strutt, C.B.E., D.S.O., Dr. T. G. Longstaff, Mr. R. P. Bicknell, and Mr. W. M. Roberts, the Members of the A.C. at present serving on the Mount Everest Committee to be Members of the Sub-Committee *ex officio*. These are: Brig.-Gen. The Hon. C. G. Bruce, C.B., M.V.O., President, Professor J. Norman Collie, LL.D., F.R.S., Capt. J. P. Farrar, D.S.O., and Mr. Sydney Spencer, Hon. Secretary. Members would be cordially invited to send in the names of any mountaineers whom they deemed suitable for the climbing party on the next Expedition, which, it was expected, would take place next year, and a notice to this effect would be sent out in the next secretarial circular.

The PRESIDENT also announced that, with regard to the Winter Dinner in December next, the Committee recommended that the price of the Dinner Tickets should be raised to 30s. each in order that champagne might be served. He desired to obtain the views of the Club on this subject. No definite views were expressed, but the general sense of the meeting was that the recommendation of the Committee would meet the wishes of the majority.

Mr. P. C. VISSER then read a Paper on the 'Karakoram Himalayas,' which was illustrated by lantern slides. Discussion followed, in which Dr. T. G. Longstaff and the President took part, and the proceedings terminated with a cordial vote of thanks to Mr. Visser.

A GENERAL MEETING of the Club was held in the Hall, 23 Savile

Row, London, W. 1, on Tuesday, May 1, 1923, at 8.30 P.M., Brig.-Gen. The Hon. C. G. Bruce, C.B., M.V.O., *President*, in the Chair.

The following candidate was balloted for and elected a Member of the Club, namely, Mr. Henry Ronald Williams.

The *PRESIDENT* announced with regret the recent deaths of Mr. F. L. Latham, an old Member of the Club, elected in 1862, and Mr. J. T. Osler, elected in 1903, one of the Club's Auditors, who was well known to a good many members.

The Regulations with regard to the Annual Winter Dinner were brought before the Meeting for approval. Regulation No. 8, suggesting that the price of the Dinner Tickets be raised to £1 11s. so that champagne might be served, was discussed, and Mr. H. V. Reade, C.B., proposed, and Mr. G. P. Baker seconded, an amendment that the price of the Dinner Tickets should be the same as last year, namely, £1 2s. After some further discussion the amendment was put to the vote and carried by a large majority.

The *PRESIDENT* announced that Sir Felix Schuster had had audience of the Pope in Rome, who had charged him with a message of good-will, and an expression of sympathy with the Club in all its undertakings. The Pope desired that his regards should be conveyed to all Members of the Club, with particular reference to Mr. D. W. Freshfield and the *President*.

Also, that a letter had been received from Cardinal Gasparri, Secretary of State to the Pope, thanking the Club for the Portfolio of Mount Everest Photographs which had been sent to the Pope in the name of the Club, and handed to him by Mr. Freshfield.

Mr. A. P. HARPER, *President* of the New Zealand Alpine Club, then gave a description of work in the Southern Alps of New Zealand, illustrated by lantern slides.

Appreciation of the work done by Mr. Harper, and of the charm of New Zealand and its people was voiced by Mr. A. L. Mumm, Mr. Claude A. Macdonald, Sir James Allen (High Commissioner for New Zealand), and the *President*, and the proceedings closed with a cordial vote of thanks to Mr. Harper.

ADDENDA AND CORRIGENDA.

Vol. xxxiv. p. 389, line 4 from bottom, *for* '10495' *read* '10945.'
P. 392, par. 3, line 8, *for* 'Mt. Barnard' *read* 'Mt. Freshfield.'

NOTE.

The map of the Freshfield group, the copies of which Dr. Deville, the Surveyor-General of Canada, has been so good as to present to the JOURNAL, is to accompany Dr. Monroe Thorington's paper in vol. xxxiv., and should be bound with that volume.

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SPOTTISWOODE, BALLANTYNE & CO. LTD.
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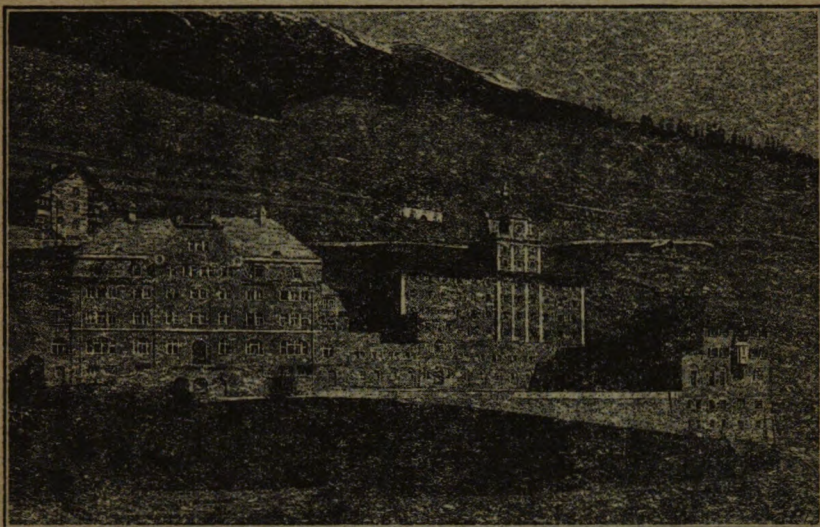
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